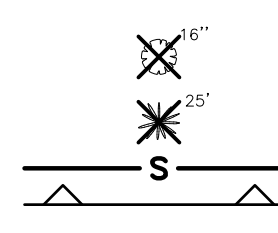
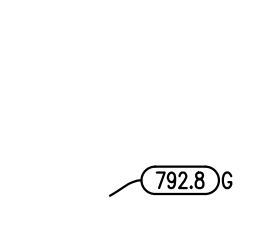
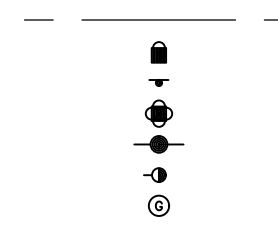
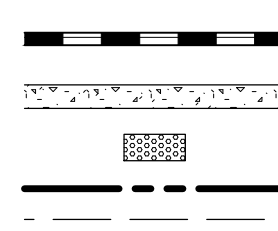
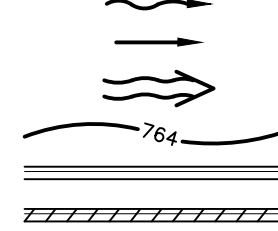
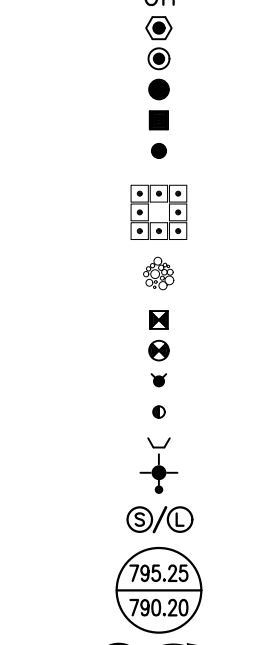
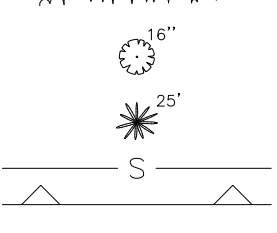
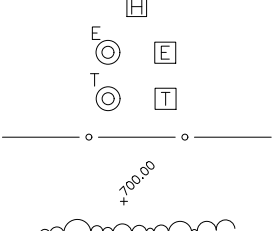
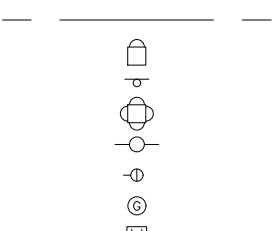
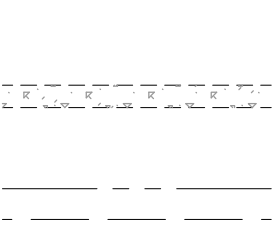
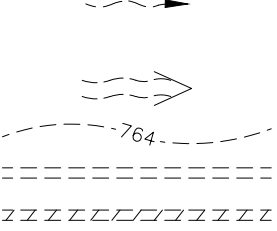
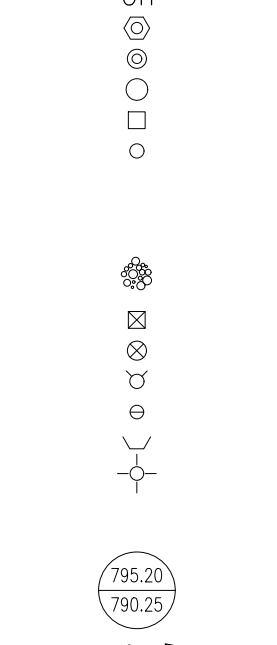


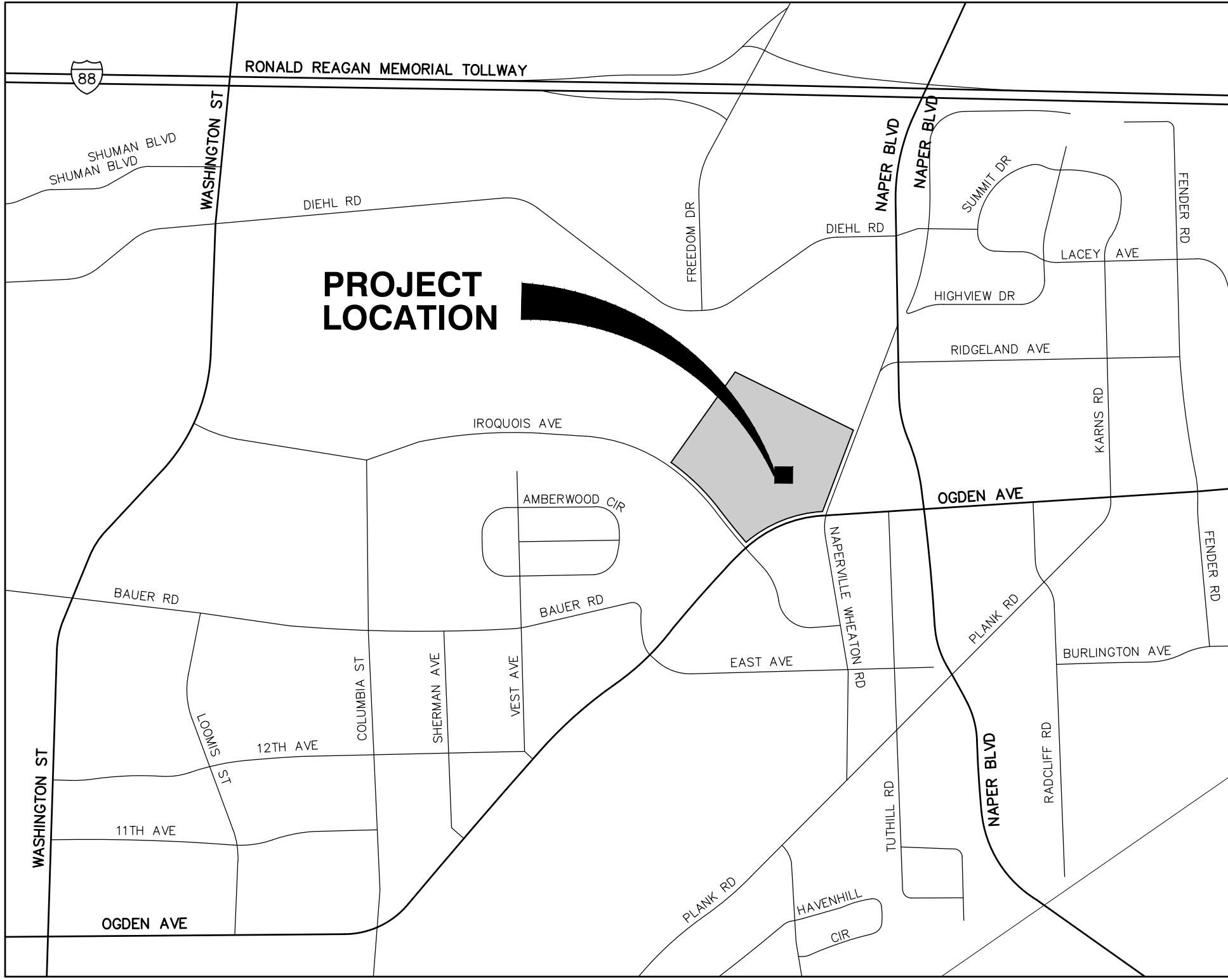
EASTGATE CROSSING - COMMERCIAL OUTLOT

The diagram shows a 1D chain of sites. The central site is labeled 'FM' and has a black arrow pointing to the right, indicating a spin. The sites to the left and right of the center are labeled 'W', 'E', 'G', 'T', and 'OH' from top to bottom. The chain is represented by horizontal lines with vertical segments at each site. The central site has a different vertical segment shape (a 'D' shape) compared to the others (which are 'C' shapes).



MANHARD CONSULTING, LTD. IS NOT RESPONSIBLE FOR THE SAFETY OF ANY PARTY AT OR ON THE CONSTRUCTION SITE. SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND ANY OTHER PERSON OR ENTITY PERFORMING WORK OR SERVICES. NEITHER THE OWNER NOR ENGINEER ASSUMES ANY RESPONSIBILITY FOR THE JOB SITE SAFETY OF PERSONS ENGAGED IN THE WORK OR THE MEANS OR METHODS OF CONSTRUCTION.

**1291-1295 EAST OGDEN AVENUE
CITY OF NAPERVILLE, ILLINOIS**



LOCATION MAP

N.T.S.

OWNER: NORCOR NAPERVILLE ASSOCIATES, LLC
ADDRESS: 1291-1295 E OGDEN AVE
CITY: NAPERVILLE
EMAIL: SEAN@NEWCASTLEPROPERTIES.COM



Manhard
CONSULTING LTDTM
One Overlook Point, Suite 250, Lincolnshire, IL 60069 ph:647.834.5550 f:647.834.0095 manhard.com
Civil Engineers • Surveyors • Water Resources Engineers • Water & Wastewater Engineers
Construction Managers • Environmental Scientists • Landscape Architects • Planners



INDEX OF SHEETS

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
1	TITLE SHEET
2	EXISTING CONDITIONS AND DEMOLITION PLAN
3	SITE DIMENSIONAL AND PAVING PLAN
4	SITE DIMENSIONAL AND PAVING PLAN – SIDEWALK EXTENSION
5	GRADING PLAN
6	GRADING PLAN – SIDEWALK EXTENSION
7	UTILITY PLAN
8	SOIL EROSION AND SEDIMENT CONTROL PLAN
9	SOIL EROSION AND SEDIMENT CONTROL DETAILS
10	CONSTRUCTION DETAILS
11	CONSTRUCTION DETAILS
12	CONSTRUCTION DETAILS
13	CONSTRUCTION SPECIFICATIONS
14	CONSTRUCTION SPECIFICATIONS

NOTES

1. THE BOUNDARY LINES AND TOPOGRAPHY FOR THIS PROJECT ARE BASED ON A FIELD SURVEY COMPLETED BY MANHARD CONSULTING, LTD. ON AUGUST, 06, 2021. THE CONTRACTOR SHALL VERIFY THE EXISTING CONDITIONS PRIOR TO CONSTRUCTION AND SHALL IMMEDIATELY NOTIFY MANHARD CONSULTING AND THE CLIENT IN WRITING OF ANY DIFFERING CONDITIONS.

BENCHMARKS

REFERENCE BENCHMARK:
ELEVATIONS AND SITE BENCHMARKS SHOWN HEREON WERE ESTABLISHED UTILIZING A TRIMBLE REAL-TIME KINEMATIC (RTK) GLOBAL NAVIGATION SATELLITE SYSTEM (GNSS) AND THE TRIMBLE VRS NOW NETWORK. THE OBSERVED ELEVATIONS ARE THE BASIS FOR ALL ELEVATIONS SHOWN HEREON AND THIS INFORMATION HAS NOT BEEN DIRECTLY COMPARED TO ANY OTHER KNOWN OR FIXED BENCHMARK. ALL ELEVATIONS ARE BASED ON NAVD 88 DATUM.

SITE BENCHMARK

CUT SQUARE ON WEST SIDE OF A CONCRETE LIGHT POLE BASE AT THE SOUTHWESTERLY CORNER OF PARKING LOT OF H MART NAPERVILLE.

ELEVATION=770.94 DATUM=NAVD8

SITE BENCHMARK :

CUT SQUARE ON EAST SIDE OF A CONCRETE LIGHT POLE BASE IN A PARKING LOT NORTHWEST OF THE H MART NAPERVILLE BUILDING.

ELEVATION=775.00 DATUM=NAVD8

<u>UTILITY CONTACTS</u>	
ELECTRIC CITY OF NAPERVILLE 1392 AURORA AVENUE NAPERVILLE, IL 60540 (630) 420-4183 CONTACT: RON RITTER	WATER (REGIONAL) DUPAGE WATER COMMISSION 600E. BUTTERFIELD ROAD (630) 834-0100 CONTACT:
GAS NICOR 1844 FERRY RD. NAPERVILLE, IL 60563 (630) 388-3046 CONTACT:	WATER (LOCAL) CITY OF NAPERVILLE 180 FORT HILL DR NAPERVILLE, IL 60540 (630) 420-6095 CONTACT:
SEWER (LOCAL) CITY OF NAPERVILLE 400 S. EAGLE ST. NAPERVILLE, IL 60540 (630) 420-6137 CONTACT:	ELECTRICAL (REGIONAL) COMED 2 LINCOLN CENTER OAKBROOK TERRACE, IL 60181 (800) 334-7661 CONTACT:



DATE CROSSING - COMMERCIAL OUTLOT

TITLE SHEET

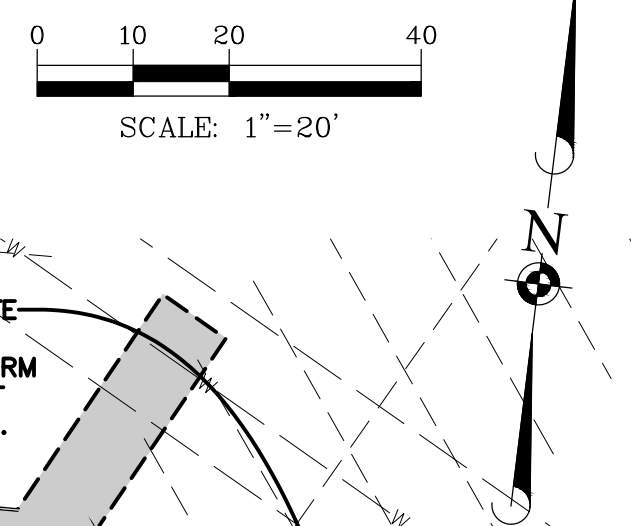
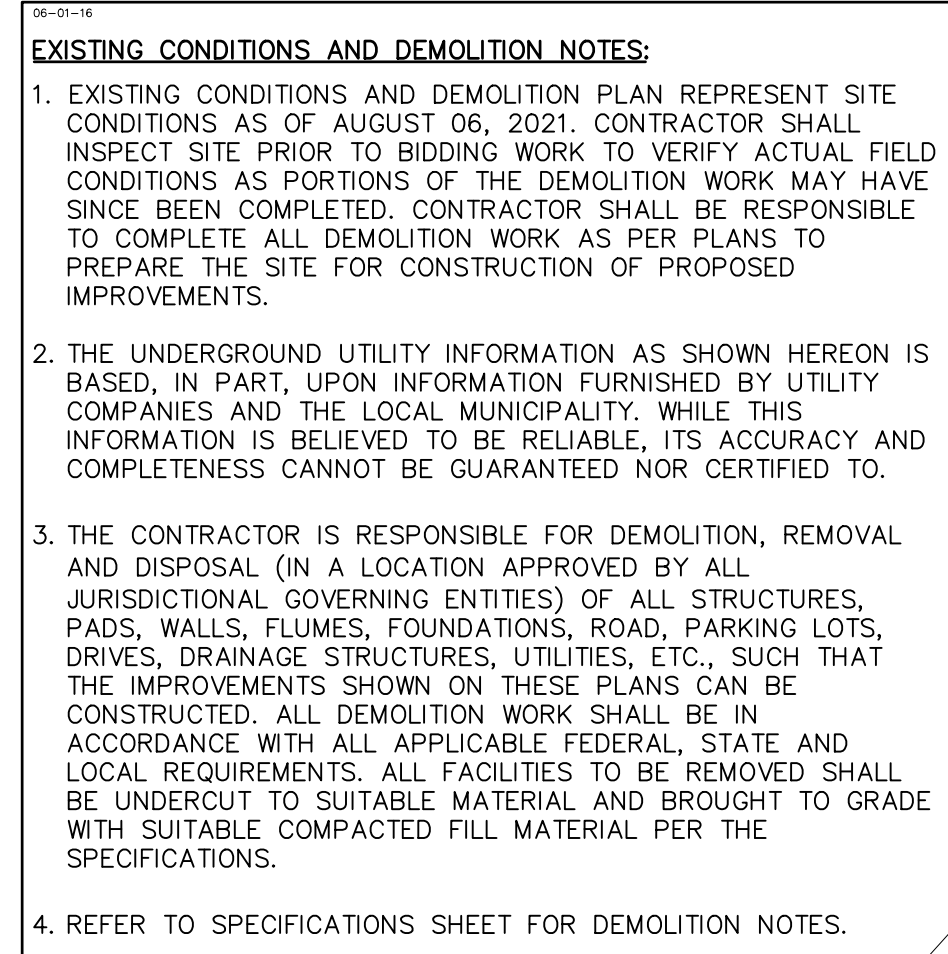
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PROJ. ASSOC.: JRM
DRAWN BY: AS
DATE: 04-21-22
SCALE: N.T.S.

SHEET

1 OF 14

NCPNVI 01

ISSUE FOR PERMIT - NOT FOR CONSTRUCTION

[illegible]

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EASTGATE CROSSING - COMMERCIAL OUTLOT
CITY OF NAPERVILLE, ILLINOIS
EXISTING CONDITIONS AND DEMOLITION PLAN

PROJ. MGR.: KJC
PROJ. ASSOC.: JRM
DRAWN BY: AS
DATE: 04-21-22
SCALE: 1"=20'

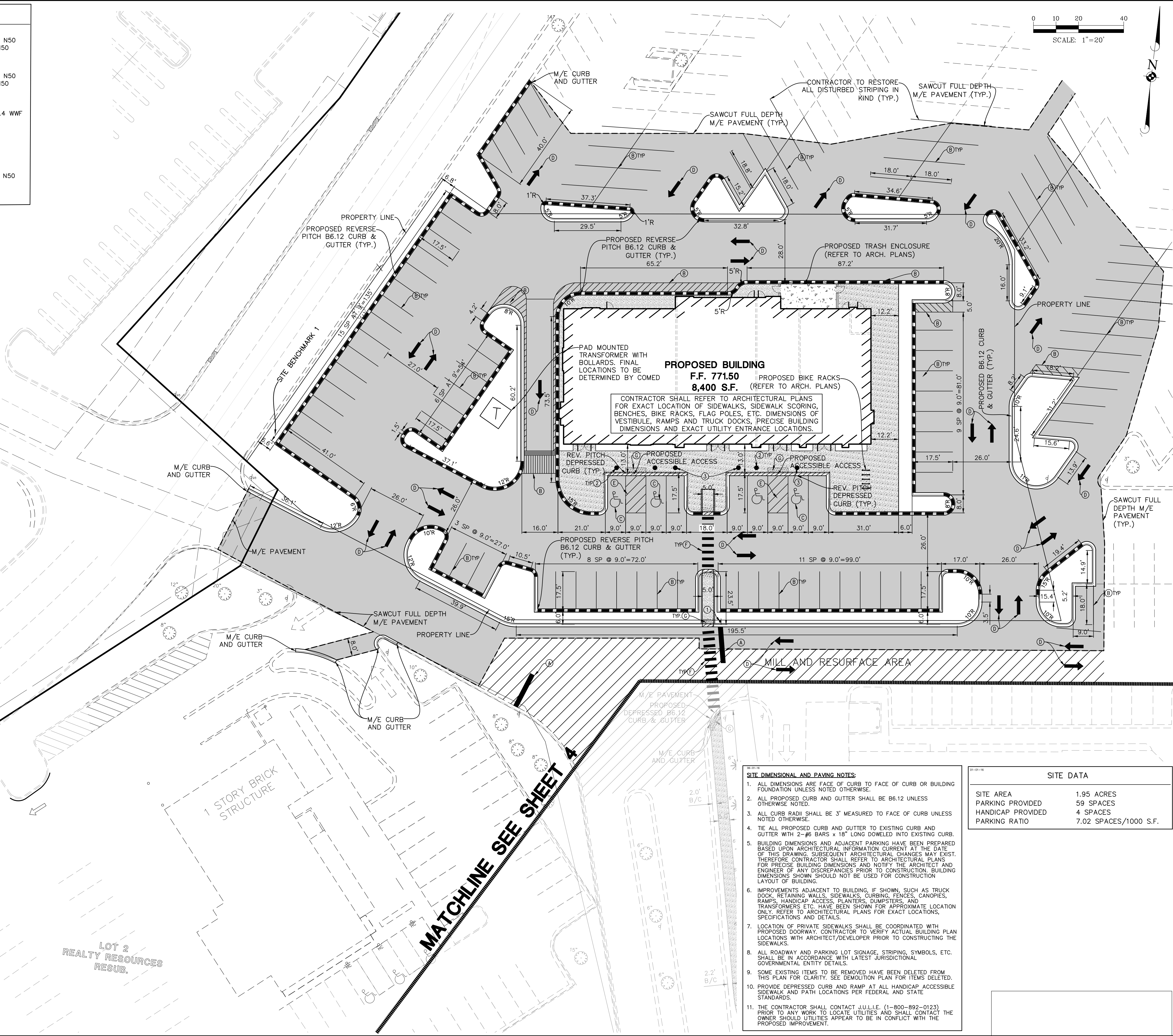
SHEET
2 OF 14
NCPNV101

ISSUE FOR PERMIT - NOT FOR CONSTRUCTION

April 19, 2022 - 13:52 Dwg Name: P:\Ncenvil01\dwg\Eng\Final Drawings\Plan Set_Buildout and Outlet\Outlet\02-EX-DEMO PLAN.dwg Updated By: gannulis

PAVEMENT MARKING LEGEND	
(A)	24" WHITE STOP BAR
(B)	4" YELLOW LINE
(C)	LETTERS AND SYMBOLS PAVEMENT MARKINGS
(D)	TRAFFIC FLOW DIRECTIONAL ARROWS
(E)	4" YELLOW DIAGONAL AT 45° SPACED 4' O.C. W/ 4" YELLOW BORDER
(F)	12" WHITE BAR CROSSWALK
(G)	TACTILE WARNING MAT

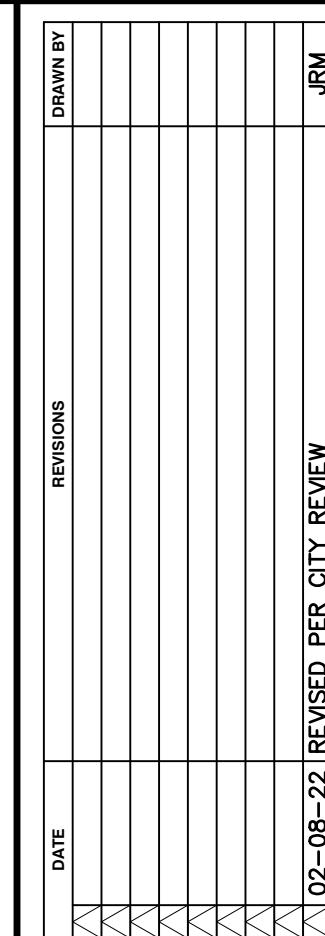
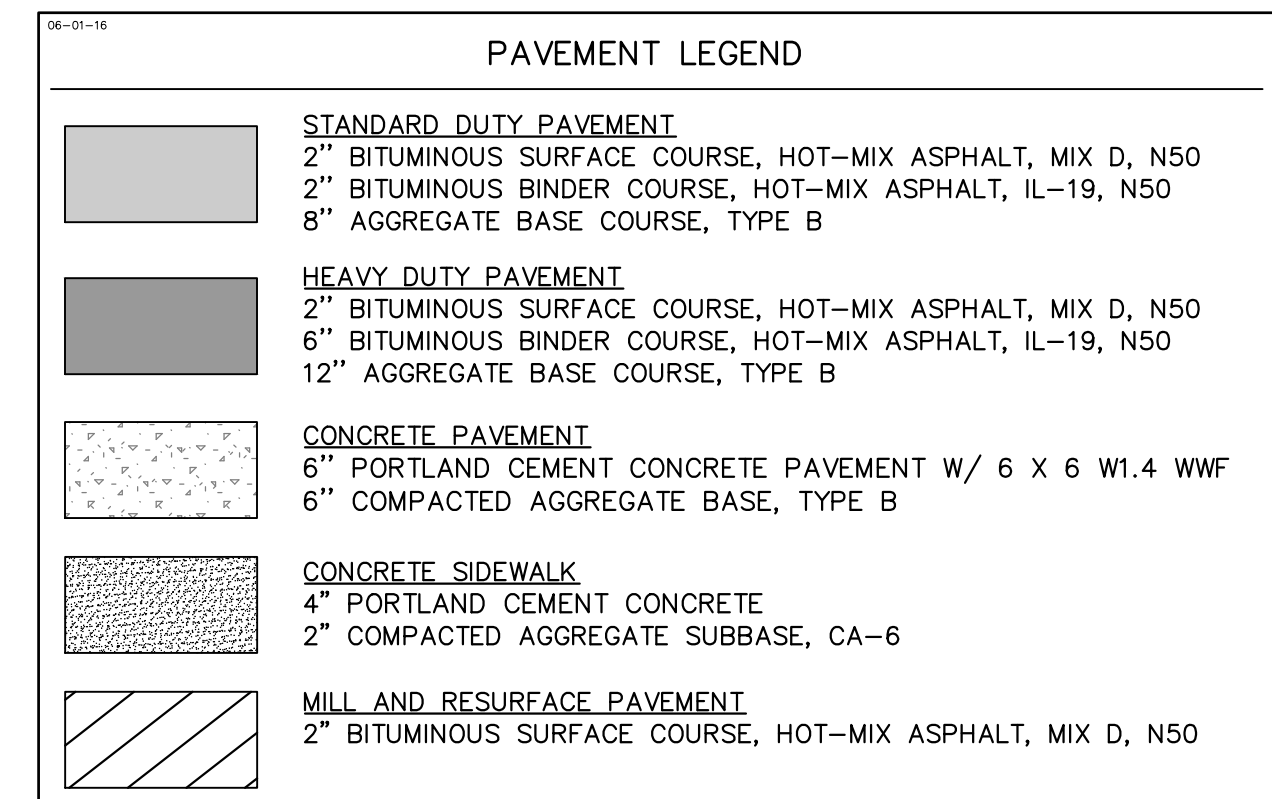
SIGN LEGEND	
①	R1-1 STOP SIGN WITH ADDITIONAL SIGNAGE
②	HANDICAP PARKING SIGN MOUNTED ON BOLLARD
③	BOLLARD ONLY. NO SIGN.



SITE DIMENSIONAL AND PAVING NOTES:

1. ALL DIMENSIONS ARE FACE OF CURB TO FACE OF CURB OR BUILDING FOUNDATION UNLESS NOTED OTHERWISE.
2. ALL PROPOSED CURB AND GUTTER SHALL BE B6.12 UNLESS OTHERWISE NOTED.
3. ALL CURB RADII SHALL BE 3' MEASURED TO FACE OF CURB UNLESS NOTED OTHERWISE.
4. TIE ALL PROPOSED CURB AND GUTTER TO EXISTING CURB AND GUTTER WITH 2-B#6 BARS X 18" LONG DEVELOPED INTO EXISTING CURB.
5. BUILDING DIMENSIONS AND ADJACENT PARKING HAVE BEEN PREPARED BASED UPON ARCHITECTURAL INFORMATION CURRENT AT THE DATE OF DRAWING. CONTRACTOR SHALL VERIFY DIMENSIONS AND LOCATIONS. THEREFORE CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR PRECISE BUILDING DIMENSIONS AND NOTIFY THE ARCHITECT AND ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION. BUILDING DIMENSIONS SHOWN SHOULD NOT BE USED FOR CONSTRUCTION LAYOUT OF BUILDING.
6. IMPROVEMENTS ADJACENT TO BUILDING, IF SHOWN, SUCH AS TRUCK DRIVELANE, SIDEWALK, SIDEWALKS, CURBING, FENCING, CANOES, RAMPS, HANDICAP ACCESS, PLANTERS, DUMPSTERS, AND TRANSFORMERS ETC. HAVE BEEN SHOWN FOR APPROXIMATE LOCATION ONLY. ENGINEER TO PROVIDE ALL PLANS FOR EXACT LOCATIONS, SPECIFICATIONS AND DETAILS.
7. LOCATION OF PRIVATE SIDEWALKS SHALL BE COORDINATED WITH PROPOSED DOORWAY. CONTRACTOR TO VERIFY ACTUAL BUILDING PLAN COORDINATION WITH ARCHITECT/DEVELOPER PRIOR TO CONSTRUCTING THE SIDEWALKS.
8. ALL ROADWAY AND PARKING LOT SIGNAGE, STRIPING, SYMBOLS, ETC. SHALL BE IN ACCORDANCE WITH LATEST JURISDICTIONAL GOVERNMENTAL ENTITY DETAILS.
9. EXISTING TREES TO BE REMOVED HAVE BEEN DELETED FROM THIS SET FOR CLARITY. SEE DEMOLITION PLAN FOR ITEMS DELETED.
10. PROVIDE DEPRESSION CURB AND RAMP AT ALL HANDICAP ACCESSIBLE SIDEWALK AND PATH LOCATIONS PER FEDERAL AND STATE STANDARDS.
11. THE CONTRACTOR SHALL CONTACT JULIE L. (1-800-892-0123) PRIOR TO ANY CONSTRUCTION. ANY UTILITIES SHOWN ON THE OWNER SHOULD UTILITIES APPEAR TO BE IN CONFLICT WITH THE PROPOSED IMPROVEMENT.

SITE DATA	
SITE AREA	1.95 ACRES
PARKING PROVIDED	59 SPACES
HANDICAP PROVIDED	48 SPACES
PARKING RATIO	7.02 SPACES/1000 S.F.



PROJ. MGR.: KJC
 PROJ. ASSOC.: JRM
 DRAWN BY: JRM
 DATE: 04-21-22
 SCALE: 1"=10'

SHEET
4 OF 14
NCPNVIL01

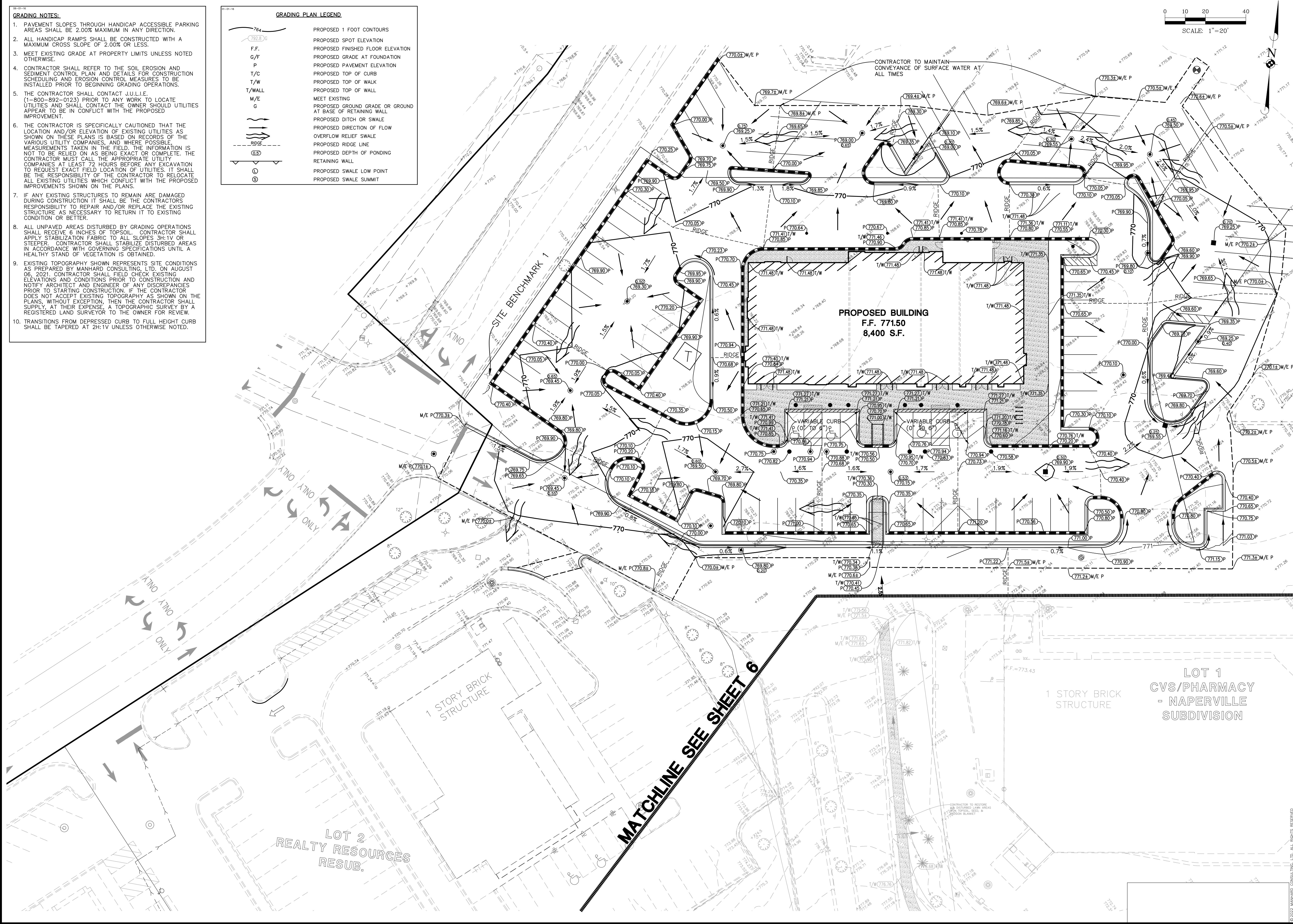
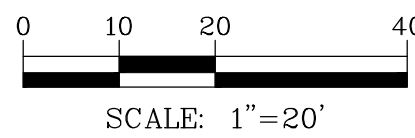
ISSUE FOR PERMIT - NOT FOR CONSTRUCTION

GRADING NOTES:

- PAVEMENT SLOPES THROUGH HANDICAP ACCESSIBLE PARKING AREAS SHALL BE 2.00% MAXIMUM IN ANY DIRECTION.
- ALL HANDICAP RAMPS SHALL BE CONSTRUCTED WITH A MAXIMUM CROSS SLOPE OF 2.00% OR LESS.
- MEET EXISTING GRADE AT PROPERTY LIMITS UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL REFER TO THE SOIL EROSION AND SEDIMENT CONTROL PLAN AND DETAILS FOR CONSTRUCTION SCHEDULING AND EROSION CONTROL MEASURES TO BE INSTALLED PRIOR TO BEGINNING GRADING OPERATIONS.
- THE CONTRACTOR SHALL CONTACT J.U.L.I.E. (1-800-892-0123) PRIOR TO ANY WORK TO LOCATE UTILITIES AND SHALL CONTACT THE OWNER SHOULD UTILITIES APPEAR TO BE IN CONFLICT WITH THE PROPOSED IMPROVEMENT.
- 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, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
- IF ANY EXISTING STRUCTURES TO REMAIN ARE DAMAGED DURING CONSTRUCTION IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE AS NECESSARY TO RETURN IT TO EXISTING CONDITION OR BETTER.
- ALL UNPAVED AREAS DISTURBED BY GRADING OPERATIONS SHALL RECEIVE 6 INCHES OF TOPSOIL. CONTRACTOR SHALL APPLY STABILIZATION FABRIC TO ALL SLOPES 3H:1V OR STEEPER. CONTRACTOR SHALL STABILIZE DISTURBED AREAS IN ACCORDANCE WITH GOVERNING SPECIFICATIONS UNTIL A HEALTHY STAND OF VEGETATION IS OBTAINED.
- EXISTING TOPOGRAPHY SHOWN REPRESENTS SITE CONDITIONS AS PREPARED BY MANHARD CONSULTING, LTD. ON AUGUST 06, 2021. CONTRACTOR SHALL FIELD CHECK EXISTING ELEVATIONS AND CONDITIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT AND ENGINEER OF ANY DISCREPANCIES PRIOR TO STARTING CONSTRUCTION. IF THE CONTRACTOR DOES NOT ACCEPT EXISTING TOPOGRAPHY AS SHOWN ON THE PLANS, WITHOUT EXCEPTION, THEN THE CONTRACTOR SHALL SUPPLY, AT THEIR EXPENSE, A TOPOGRAPHIC SURVEY BY A REGISTERED LAND SURVEYOR TO THE OWNER FOR REVIEW.
- TRANSITIONS FROM DEPRESSED CURB TO FULL HEIGHT CURB SHALL BE TAPERED AT 2H:1V UNLESS OTHERWISE NOTED.

GRADING PLAN LEGEND

	PROPOSED 1 FOOT CONTOURS
	PROPOSED SPOT ELEVATION
	PROPOSED FINISHED FLOOR ELEVATION
	PROPOSED GRADE AT FOUNDATION
	PROPOSED PAVEMENT ELEVATION
	PROPOSED TOP OF CURB
	PROPOSED TOP OF WALK
	PROPOSED TOP OF WALL
	MEET EXISTING PROPOSED GROUND GRADE OR GROUND AT BASE OF RETAINING WALL
	PROPOSED DITCH OR SWALE
	PROPOSED DIRECTION OF FLOW
	OVERFLOW RELIEF SWALE
	PROPOSED RIDGE LINE
	PROPOSED DEPTH OF PONDING
	RETAINING WALL
	PROPOSED SWALE LOW POINT
	PROPOSED SWALE SUMMIT



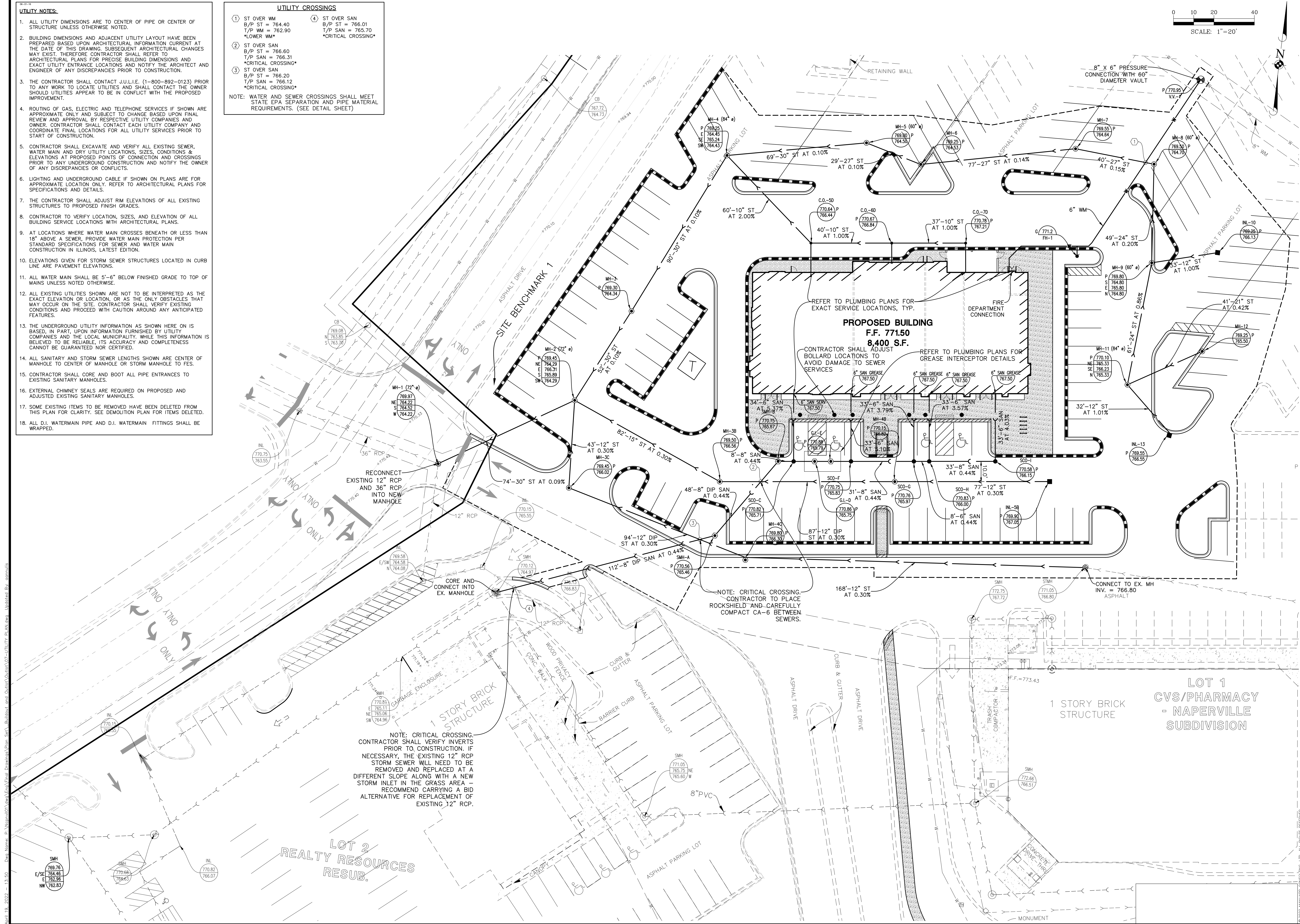
DATE	REVISIONS
02-09-22	REVISED PER CITY REVIEW

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Civil Engineers • Surveyors • Water Resource Engineers • Water & Wastewater Engineers
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EASTGATE CROSSING - COMMERCIAL OUTLOT
CITY OF NAPERVILLE, ILLINOIS
GRADING PLAN

- UTILITY NOTES:
- ALL UTILITY DIMENSIONS ARE TO CENTER OF PIPE OR CENTER OF STRUCTURE UNLESS OTHERWISE NOTED.
 - BUILDING DIMENSIONS AND ADJACENT UTILITY LAYOUT HAVE BEEN PREPARED BASED UPON ARCHITECTURAL INFORMATION CURRENT AT THE DATE OF THIS DRAWING. SUBSEQUENT ARCHITECTURAL CHANGES MAY EXIST. THEREFORE CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR PRECISE BUILDING DIMENSIONS AND EXACT UTILITY ENTRANCE LOCATIONS AND NOTIFY THE ARCHITECT AND ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
 - THE CONTRACTOR SHALL CONTACT J.U.L.I.E. (1-800-892-0123) PRIOR TO ANY WORK TO LOCATE UTILITIES AND SHALL CONTACT THE OWNER SHOULD UTILITIES APPEAR TO BE IN CONFLICT WITH THE PROPOSED IMPROVEMENT.
 - ROUTING OF GAS, ELECTRIC AND TELEPHONE SERVICES IF SHOWN ARE APPROXIMATE ONLY AND SUBJECT TO CHANGE BASED UPON FINAL REVIEW AND APPROVAL BY RESPECTIVE UTILITY COMPANIES AND OWNER. CONTRACTOR SHALL CONTACT EACH UTILITY COMPANY AND COORDINATE FINAL LOCATIONS FOR ALL UTILITY SERVICES PRIOR TO START OF CONSTRUCTION.
 - CONTRACTOR SHALL EXCAVATE AND VERIFY ALL EXISTING SEWER, WATER MAIN AND DRY UTILITY LOCATIONS, SIZES, CONDITIONS & ELEVATIONS AT PROPOSED POINTS OF CONNECTION AND CROSSINGS PRIOR TO ANY UNDERGROUND CONSTRUCTION AND NOTIFY THE OWNER OF ANY DISCREPANCIES OR CONFLICTS.
 - LIGHTING AND UNDERGROUND CABLE IF SHOWN ON PLANS ARE FOR APPROXIMATE LOCATION ONLY. REFER TO ARCHITECTURAL PLANS FOR SPECIFICATIONS AND DETAILS.
 - THE CONTRACTOR SHALL ADJUST RIM ELEVATIONS OF ALL EXISTING STRUCTURES TO PROPOSED FINISH GRADES.
 - CONTRACTOR TO VERIFY LOCATION, SIZES, AND ELEVATION OF ALL BUILDING SERVICE LOCATIONS WITH ARCHITECTURAL PLANS.
 - AT LOCATIONS WHERE WATER MAIN CROSSES BENEATH OR LESS THAN 18" ABOVE A SEWER, PROVIDE WATER MAIN PROTECTION PER STANDARD SPECIFICATIONS FOR SEWER AND WATER MAIN CONSTRUCTION IN ILLINOIS, LATEST EDITION.
 - ELEVATIONS GIVEN FOR STORM SEWER STRUCTURES LOCATED IN CURB LINE ARE PAVEMENT ELEVATIONS.
 - ALL WATER MAIN SHALL BE 5'-6" BELOW FINISHED GRADE TO TOP OF MAINS UNLESS NOTED OTHERWISE.
 - ALL EXISTING UTILITIES SHOWN ARE NOT TO BE INTERPRETED AS THE EXACT ELEVATION OR LOCATION, OR AS THE ONLY OBSTACLES THAT MAY OCCUR ON THE SITE. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS AND PROCEED WITH CAUTION AROUND ANY ANTICIPATED FEATURES.
 - THE UNDERGROUND UTILITY INFORMATION AS SHOWN HERE ON IS BASED, IN PART, UPON INFORMATION FURNISHED BY UTILITY COMPANIES AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED NOR CERTIFIED.
 - ALL SANITARY AND STORM SEWER LENGTHS SHOWN ARE CENTER OF MANHOLE TO CENTER OF MANHOLE OR STORM MANHOLE TO FES.
 - CONTRACTOR SHALL CORE AND BOOT ALL PIPE ENTRANCES TO EXISTING SANITARY MANHOLES.
 - EXTERNAL CHIMNEY SEALS ARE REQUIRED ON PROPOSED AND ADJUSTED EXISTING SANITARY MANHOLES.
 - SOME EXISTING ITEMS TO BE REMOVED HAVE BEEN DELETED FROM THIS PLAN FOR CLARITY. SEE DEMOLITION PLAN FOR ITEMS DELETED.
 - ALL D.I. WATERMAIN PIPE AND D.I. WATERMAIN FITTINGS SHALL BE WRAPPED.

- UTILITY CROSSINGS
- | | |
|---|---|
| ① ST OVER WM
B/P ST = 764.40
T/P WM = 762.90
LOWER WM | ④ ST OVER SAN
B/P ST = 766.01
T/P SAN = 765.70
CRITICAL CROSSING |
| ② ST OVER SAN
B/P ST = 766.60
T/P SAN = 766.31
CRITICAL CROSSING | |
| ③ ST OVER SAN
B/P ST = 766.20
T/P SAN = 766.12
CRITICAL CROSSING | |
- NOTE: WATER AND SEWER CROSSINGS SHALL MEET STATE EPA SEPARATION AND PIPE MATERIAL REQUIREMENTS. (SEE DETAIL SHEET)

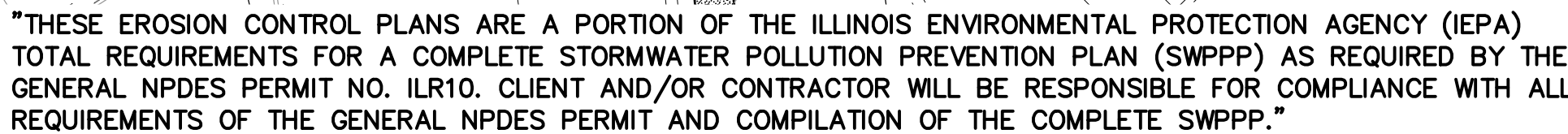


** INSTALL INLET PROTECTION STRUCTURES AS CONSTRUCTED.

1. ALL VEGETATIVE AND STRUCTURAL EROSION CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE "ILLINOIS URBAN MANUAL".
2. MAINTENANCE AND REPLACEMENT OF EROSION CONTROL ITEMS, WHEN DIRECTED BY THE OWNER, SHALL BE CONSIDERED AS INCIDENTAL TO THE CONTRACT.
3. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES AT LEAST TWENTY (20) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES OR GREATER OR EQUIVALENT SNOWFALL. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF SAID MEASURES SHALL BE MADE IMMEDIATELY.
4. INSTALL ALL PERMITTER SILT FENCING PRIOR TO ANY CLEARING OR GRADING. SEDIMENTATION CONTROL MEASURES AS SHOWN AND SPECIFIED BY THIS EROSION AND SEDIMENTATION CONTROL PLAN SHALL BE CONSTRUCTED AND FUNCTIONAL PRIOR TO INITIATING CLEARING, GRADING, STRIPPING, EXCAVATION OR FILLING ACTIVITIES ON THE SITE.
5. STORM WATERS FALLING ON THE ENTIRE SITE SHALL BE DIVERTED INTO THE DETENTION BASIN, PRIOR TO BEGINNING MASS EXCAVATION. THE CONTRACTOR SHALL CONSTRUCT TRAPS, BARRIERS, SEDIMENTATION TRAPS AND SILTATION CONTROL MEASURES AS REQUIRED TO INTERCEPT SURFACE WATERS BEFORE THEY FLOW INTO ADJACENT PROPERTY AND CONVEY THEM TO THE DETENTION BASIN.
6. STABILIZATION OF DISTURBED AREAS MUST BE INITIATED IMMEDIATELY WHENEVER ANY CLEARING, GRADING, EXCAVATING OR OTHER EARTH DISTURBING ACTIVITIES HAVE PERMANENTLY CEASED ON ANY PORTION OF THE SITE, OR TEMPORARILY CEASED ON ANY PORTION OF THE SITE AND WILL NOT RESUME FOR A PERIOD EXCEEDING 14 CALENDAR DAYS. STABILIZATION OF DISTURBED AREAS MUST BE INITIATED WITHIN 1 WORKING DAY OF PERMANENT OR TEMPORARY CESSATION OF EARTH DISTURBING ACTIVITIES AND SHALL BE COMPLETED AS SOON AS POSSIBLE BUT NOT LATER THAN 14 DAYS FROM THE INITIATION OF STABILIZATION WORK IN AN AREA.
7. TEMPORARY SEED MIXTURE SHALL BE APPLIED AT 64 LBS./ACRE.
8. INLET PROTECTION SHALL BE INSTALLED UNDER THE GRATING OF EACH DRAINAGE STRUCTURE..
9. DURING DEWATERING OPERATIONS, WATERS WILL BE PUMPED INTO SEDIMENT BASINS OR SILT TRAPS. DEWATERING DIRECTLY INTO FIELD TILES OR STORMWATER STRUCTURES IS PROHIBITED.
10. WATER PUMPED DURING CONSTRUCTION OPERATION SHALL BE FILTERED.
11. DUST CONTROL SHALL BE PERFORMED ON A DAILY BASIS USING WATER DISPERSED FROM A TRUCK MOUNTED TANK WITH STANDARD DISCHARGE HEADER TO PROVIDE A UNIFORM RATE OF APPLICATION.
12. TEMPORARY GRAVEL CONSTRUCTION ENTRANCES SHALL BE MAINTAINED, ADJUSTED OR RELOCATED AS NECESSARY TO PREVENT SEDIMENT FROM BEING TRACKED ONTO PUBLIC ROADWAYS. ANY SEDIMENT REACHING A PUBLIC ROAD SHALL BE REMOVED BY SHOVELING OR STREET CLEANING BEFORE THE END OF EACH WORKING DAY.
13. ANY LOOSE MATERIAL THAT IS DEPOSITED IN THE FLOW LINE OF ANY GUTTER OR DRAINAGE STRUCTURE DURING CONSTRUCTION OPERATIONS SHALL BE REMOVED AT THE CLOSE OF EACH WORKING DAY.
14. OVERLAND FLOW SHALL BE DIRECTED TO THE DETENTION BASIN PRIOR TO LEAVING THE SITE.
15. THE EROSION CONTROL MEASURES IDENTIFIED ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECTED BY THE CLIENT OR OTHER JURISDICTIONAL GOVERNMENTAL ENTITIES.
16. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE MAINTAINED AND REPAIRED IN ACCORDANCE WITH ALL JURISDICTIONAL GOVERNMENTAL AGENCY REQUIREMENTS WITHIN 30 DAYS OF FINAL STABILIZATION.

 PAVEMENT DRAINAGE FLOW
 LIMITS OF
DISTURBANCE / CONSTRUCTION

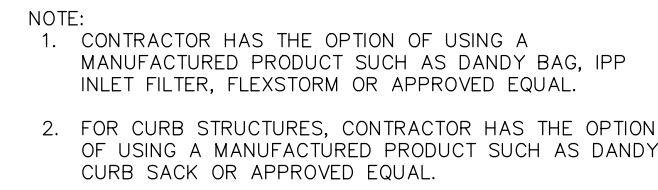
NOTE: THIS CHART IS A GUIDE TO ASSIST THE CONTRACTOR IN UNDERSTANDING OPTIONS FOR SOIL STABILIZATION. THE LANDSCAPE PLAN SHALL TAKE PRECEDENCE OVER THIS CHART. ANY CONFLICT SHALL BE DISCUSSED WITH THE LANDSCAPE ARCHITECT PRIOR TO THE START OF CONSTRUCTION.



PROJ. MGR.: KJC
 PROJ. ASSOC.: JRM
 DRAWN BY: AS
 DATE: 04-21-22
 SCALE: 1"=20'

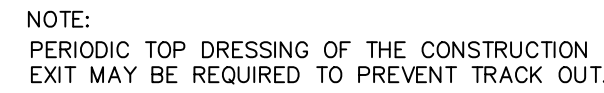
SHEET
8 OF 14
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ISSUE FOR PERMIT - NOT FOR CONSTRUCTION



06-01-15

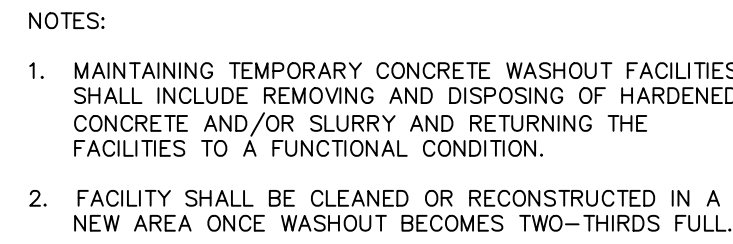
FILTER BASKET
INLET SEDIMENT
FILTER



06-01-15
GRAVEL
CONSTRUCTION
ACCESS
DETAIL



TYPICAL
EROSION EEL



CONCRETE
WASHOUT
DETAIL



Manhard
CONSULTING LTD.

110 West Illinois, 7th Floor, Chicago, IL 60654
 Tel: 312.634.3901 Fax: 312.634.3906
 manhard.com

Cost Engineers • Value Resource Engineers • Water & Wastewater Engineers

PROJ. MGR.:	<u>KJC</u>
PROJ. ASSOC.:	<u>JRM</u>
DRAWN BY:	<u>AS</u>
DATE:	<u>04-21-22</u>
SCALE:	<u>N.T.S.</u>
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9 OF 14	
NCPNVIL01	

MANHARD CONSULTING, LTD.
STANDARD SPECIFICATIONS

GENERAL CONDITIONS

CONTRACTOR acknowledges and agrees that the use and reliance of these Plans and Specifications is sufficient consideration for CONTRACTOR'S covenants stated herein.

DEFINITION OF TERMS

a. "CLIENT" shall mean Norcor Naperville Associates LLC, which is the person or entity with whom Manhard Consulting, Ltd. has contracted with to prepare Civil Engineering PLANS and SPECIFICATIONS.

b. "ENGINEER" shall mean Manhard Consulting, Ltd., a Civil Engineering consultant on the subject project.

c. "PLANS and SPECIFICATIONS" shall mean the Civil Engineering PLANS and SPECIFICATIONS prepared by the ENGINEER, which may be a part of the contract documents for the subject project.

d. "CONTRACTOR" shall mean any person or entity performing any work described in the PLANS and SPECIFICATIONS.

e. "JURISDICTIONAL GOVERNMENTAL ENTITY" shall mean any municipal, county, state or federal unit of government from whom an approval, permit and/or review is required for any aspect of the subject project.

INTENT OF THE PLANS AND SPECIFICATIONS

The intent of the PLANS and SPECIFICATIONS is to set forth certain requirements of performance, type of equipment and structures, and standards of materials and construction. They may also identify labor and materials, equipment and transportation necessary for the proper execution of the work and are not intended to be infinitely determined so as to include minor items obviously required as part of the work. The PLANS and SPECIFICATIONS require new material and equipment unless otherwise indicated, and to require complete performance of the work in spite of omissions of specific references to any minor component part. It is not intended, however, that materials or work not covered by or properly inferred from any heading, branch, clause or trade of the SPECIFICATIONS shall be supplied unless distinctly so noted. Materials or work described in words, which so applied have a well-known technical or trade meaning, shall be held to refer to such recognized standards.

INTERPRETATION OF PLANS AND SPECIFICATIONS

a. The CLIENT and/or CONTRACTOR shall promptly report any errors or ambiguities in the PLANS and SPECIFICATIONS to the ENGINEER. Questions as to meaning of PLANS and SPECIFICATIONS shall be interpreted by the ENGINEER, whose decision shall be final and binding on all parties concerned.

b. The ENGINEER will provide the CLIENT with such information as may be required to show revised or additional details of construction.

c. Should any discrepancies or conflicts on the PLANS or SPECIFICATIONS be discovered either prior to or after award of the contract, the ENGINEER's attention shall be called to the same before the work is begun therein and the proper corrections made. Neither the CLIENT nor the CONTRACTOR may take advantage of any error or omissions in the PLANS and SPECIFICATIONS. The ENGINEER will provide information when errors or omissions are discovered.

GOVERNING BODIES

All work herein proposed shall be completed in accordance with all requirements of any JURISDICTIONAL GOVERNMENTAL ENTITY, and all such pertinent laws, directives, ordinances and the like shall be considered to be a part of these SPECIFICATIONS. If a discrepancy is noted between the PLANS and SPECIFICATIONS and requirements of any JURISDICTIONAL GOVERNMENTAL ENTITY, the CLIENT and/or the CONTRACTOR shall immediately notify the ENGINEER in writing.

LOCATION OF UNDERGROUND FACILITIES AND UTILITIES

When the PLANS and SPECIFICATIONS include information pertaining to the location of existing underground facilities and utilities (including but not limited to water mains, sanitary sewers, storm sewers, electric, telephone, gas and cable TV lines), such information represents only the opinion of the ENGINEER as to the approximate location and elevation of such facilities and utilities. At the locations wherein detailed positions of these facilities and utilities become necessary for the new construction, including all points of connection, the CONTRACTOR shall furnish all labor and tools to verify or definitely establish the horizontal location, elevation, size and material (if appropriate) of the facilities and utilities. The CONTRACTOR shall notify the ENGINEER at least 48 hours prior to construction if any discrepancies in existing utility information or conflicts with existing utilities exist. The ENGINEER assumes no responsibility whatever with respect to the sufficiency or accuracy of the information shown on the PLANS and SPECIFICATIONS relative to the location of underground facilities and utilities, nor the manner in which they are removed or adjusted.

It shall be the CONTRACTOR'S responsibility prior to construction, to notify all Utility Companies of the intent to begin construction and to verify the actual location of all such facilities and utilities. The CONTRACTOR shall also obtain from the respective Utility Companies the working schedules for removing or adjusting these facilities.

UNSATURATED SOILS

The PLANS have been prepared by the ENGINEER based on the assumption that all soils on the project are suitable to support the proposed improvements shown. The CLIENT or CONTRACTOR shall immediately notify the ENGINEER if he discovers or encounters an obstruction that prevents the installation of the improvement according to the line and grades shown on the PLANS.

PROTECTION OF TREES

All trees that are not to be removed shall be protected from damage. Trees shall not be removed unless requested to do so in writing by the CLIENT.

NOTIFICATION OF OWNERS OF FACILITIES AND UTILITIES

The CONTRACTOR shall notify all applicable Jurisdictional Governmental Entities or utility companies, i.e., water, sewer, electric, telephone, gas and cable TV prior to beginning any construction so that said entity or company can establish the location and elevation of underground pipes, conduits or cables adjoining or crossing proposed construction.

TRAFFIC CONTROL

The CONTRACTOR shall provide when required by any JURISDICTIONAL GOVERNMENTAL ENTITY, all signs, equipment, and personnel necessary to provide for safe and efficient traffic flow in all areas where the project or cause to change in any form, the conditions of traffic flow that existed prior to the commencement of any portions of the work. The CLIENT may, at his discretion, require the CONTRACTOR to furnish traffic control under these or other circumstances wherein in his opinion it is necessary for the protection of life and property. Emergency vehicle access shall be maintained at all times. Unless authorized by the CLIENT or CLIENT'S consultant, no existing access points shall be maintained at all times by the CONTRACTOR. The need for traffic control shall be anticipated by the CLIENT.

WORK AREA

The CONTRACTOR, his agents and employees and their employees and all equipment, machinery and vehicles shall confine their work within the boundaries of the project work area specified by the client. The CONTRACTOR shall be solely liable for damage caused by him or his agents and employees and their equipment, machinery and vehicles on adjacent property or areas outside designated work areas.

UTILITY POLES

It shall be the responsibility of the CONTRACTOR to arrange for the relocation or bracing of existing utility poles that may be within the working limits of this contract. It is expressly understood that all work and costs connected with the maintenance of these utility poles, their temporary relocations, etc., shall be the responsibility of the CLIENT or the CONTRACTOR.

RESTORATION

It is the intent of these SPECIFICATIONS that clean-up and final restoration shall be performed immediately upon completion of each phase of the work, both inside and outside the Project, and, when so directed by the CLIENT, so that these areas will be restored as nearly as possible to their original condition or better, and shall include but not be limited to, restoration of maintained lawns and rights-of-way, roadways, driveways, sidewalks, ditches, bushes, hedges, trees, shrubs, fences, mailboxes, sewers, drain tiles, water mains, etc.

CLEANING UP

The CONTRACTOR shall at all times keep the premises free from accumulations of waste material or rubbish caused by his employees or work, and at the completion of the work he shall remove all his rubbish, tools, scaffolding and surplus materials and shall leave his work "broom clean" or its equivalent, unless more exactly specified.

ROAD CLEANING

The CONTRACTOR shall maintain roadways adjoining the project site free from mud and debris at all times. If mud and/or debris is carried onto the roadways from vehicles entering onto the highway from either the CONTRACTOR'S trucks, his employees' vehicles, or his material suppliers, the CONTRACTOR shall immediately remove said mud and/or debris.

SAFETY AND PROTECTION

The CONTRACTOR shall be solely and completely responsible for the conditions of the job site, including safety of all persons and property during performance of the work. This requirement shall apply continuously and not be limited to normal working hours. The CONTRACTOR shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss, and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR'S duties and responsibilities for safety and for protection of the work shall continue until such time as all work is completed and the CLIENT has notified CONTRACTOR that the work is acceptable. The duties of the ENGINEER do not include review of the adequacy of either the CONTRACTOR'S or the general public's safety in, on, or near the construction site.

HOLD-HARMLESS

To the fullest extent permitted by law, any CONTRACTOR, material supplier or other entity by use of these plans and specifications hereby warrants any right of contribution and agrees to indemnify, defend, save and hold harmless the CLIENT and ENGINEER and its agents, employees and consultants from and against all manner of claims, causes, causes of action, damages, losses and expenses, including but not limited to, attorneys' fees arising out of, resulting from or in connection with the performance of any work, pursuant to any work with respect to these plans and specifications. However, this indemnity shall not be construed to indemnify ENGINEER, its consultants, agents or employees against its own negligence.

Claims, damages, losses and expenses as between any person or entity used in the Agreement shall mean and include, but not be limited to (1) injury or damage occurring by reason of the failure of or use or misuse of any host, riggings, blocking, scaffolding or any and all other kinds of items of equipment, whether or not the same be owned, furnished or loaned by any party or entity, including any contractor, (2) all attorneys' fees and costs incurred in bringing an action to enforce the provisions of this indemnity; (3) costs for time expended by the indemnified party and its employees, at its usual rates plus costs of travel, long distance telephone and reproduction of documents and (4) consequential damages.

In any and all claims against the CLIENT or ENGINEER or any of their agents or employees and consultants by any party, including any employee of the CONTRACTOR or any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the CONTRACTOR or any Subcontractor under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts or any insurance maintained by CONTRACTOR or any Subcontractor or any other party.

INSURANCE

Any party using or relying on these plans, including any contractor, material supplier, or other entity shall obtain, (prior to commencing any work) general public liability insurance insuring against all damages and claims for any bodily injuries, death or property damages arising out of any work, including the construction work provided for in these plans, and shall name the CLIENT and ENGINEER and its consultants, agents and representatives as additional insureds under such insurance policy provided that any party using or relying on these plans having obligations to maintain specific insurance by reason of any agreement with CLIENT or any CONTRACTOR or ENGINEER shall provide evidence and certificates of insurance as required by such contract or agreement. Such insurance must contain a clause stating that the insurance is primary coverage for ENGINEER and ENGINEER'S other applicable coverage is considered secondary. Such insurance shall not limit any liability of any party providing work or services or providing materials.

THIRD PARTY BENEFICIARY

Manhard Consulting, Ltd., the ENGINEER, is intended to be a third party beneficiary of this willing agreement and requirement.

Note: These Specifications are for Northern Illinois.

DETAILED SPECIFICATIONS

I. DEMOLITION

The CONTRACTOR shall coordinate with respective utility companies prior to the removal and/or relocation of utilities. The CONTRACTOR shall coordinate with the utility company concerning portions of work which may be performed by the utility Company's forces and any fees which are to be paid to the utility company for their services. The CONTRACTOR is responsible for paying for all fees and charges.

Should removal and/or relocation activities damage features indicated to remain, the CONTRACTOR shall provide new materials/structures in accordance with the contract documents. Except for materials designed to be relocated on this plan, all other construction materials shall be new.

Prior to demolition occurring, all erosion control devices are to be installed.

All existing utility lines and conduits located under proposed buildings shall be removed and properly backfilled. All utility lines and conduits located under roads, on-site roads, parking lots or sidewalks shall be filled with a flowable backfill and end plugged. All existing structures shall be removed. All existing utility lines located under landscape areas shall be left in place and plugged at all structures.

The CONTRACTOR is responsible for demolition, removal and disposal (in a location approved by any JURISDICTIONAL GOVERNING ENTITIES) of all structures, pads, walls, furnaces, foundations, road, parking lots, drives, drainage structures (utilities, etc.), such that the improvements shown on these plans can be constructed. All demolition work shall be in accordance with all applicable federal, state and local requirements. All facilities to be removed shall be undercut to suitable material and brought to grade with suitable compacted fill material per the specifications.

The CONTRACTOR is responsible for obtaining all permits required for demolition and disposal.

Electrical, telephone, cable, water, fiber optic cable and/or gas lines needing to be removed shall be coordinated by the CONTRACTOR with the affected utility company. CONTRACTOR must protect the public at all times with fencing, barriers, enclosures, and other appropriate best management practices.

Continuous access shall be maintained for surrounding properties at all times during demolition.

All fire access lanes within the project area shall remain in service, clear of debris, and accessible for use by emergency vehicles.

The CONTRACTOR shall coordinate water main work with the Fire Department and the JURISDICTIONAL GOVERNING ENTITY to plan the proposed improvements and to ensure adequate fire protection is available to the facility and site throughout this specific work and through all phases of construction. CONTRACTOR shall be responsible for any required water main shut offs with the JURISDICTIONAL GOVERNING ENTITY during construction. Any costs associated with water main shut offs will be the responsibility of the CONTRACTOR and not extra compensation to be provided.

CONTRACTOR shall maintain all existing parking areas, sidewalks, drives, etc. clear and free from any construction activity and/or material to ensure easy and safe pedestrian and vehicular traffic to and from the site. CONTRACTOR shall coordinate phase all construction activity within proximity of the building and utility interruptions with the facility manager to minimize disturbance and inconvenience to facility operations.

CONTRACTOR may limit saw-cut and pavement removal to only those areas where it is required as shown on these construction plans, however if any damage is incurred on any of the surrounding pavement, etc. the CONTRACTOR shall be responsible for ITS removal and repair.

Any existing wells encountered shall be exposed and sealed 3' below proposed finish grade by the CONTRACTOR in accordance with Section 920.120 (latest edition) of the Illinois Water Well Construction Code, Department of Public Health, and all applicable local rules and regulations. CONTRACTOR is responsible for obtaining all permits required by JURISDICTIONAL GOVERNMENTAL ENTITIES for abandoning existing wells.

Any existing septic tanks and grease traps encountered shall have all liquids and solids removed and disposed of by a licensed commercial hauler in accordance with JURISDICTIONAL GOVERNING ENTITY regulations, and the tank and grease traps shall then be filled with suitable materials or removed from the site and disposed of by the CONTRACTOR.

voids left by any item removed under any proposed building, pavement, walk, etc. or within 24" thereof shall be filled and compacted with suitable materials by the CONTRACTOR.

The CONTRACTOR shall be responsible for the disconnection of utility services to the existing buildings prior to demolition of the buildings.

Any material containing asbestos found within existing structures shall be removed from the site and disposed of off-site by the CONTRACTOR in accordance with County, State and Federal regulations.

CONTRACTOR shall develop and implement a daily program of dust control and shall submit and obtain JURISDICTIONAL GOVERNING ENTITY approval of dust control procedures prior to demolition of any structures. Modification of dust control procedures shall be performed by the CONTRACTOR to the satisfaction of the JURISDICTIONAL GOVERNING ENTITY as requested.

The CONTRACTOR shall coordinate all demolition with the JURISDICTIONAL GOVERNING ENTITY and CLIENT to ensure protection and maintenance of sanitary sewer and water utilities as necessary and to provide stormwater conveyance until new facilities are constructed, tested and placed into operation.

The locations of all existing utilities shown on this plan have been determined from the best information available and are given for the convenience of the CONTRACTOR and are not to be interpreted as the exact location, or as the only obstacles that may occur on the site. The ENGINEER assumes no responsibility for their accuracy. Prior to the start of any demolition activity, the CONTRACTOR shall notify the utility companies for location of existing utilities and shall verify existing conditions and proceed with caution around any anticipated features.

The CONTRACTOR is responsible for removing the existing irrigation system in the areas of proposed improvements. The contractor shall cap the existing irrigation system to remain such that the remaining system shall continue to function properly.

The parking lot shall be completed in sections such that it does not interrupt the facility operations. The CONTRACTOR shall coordinate with the construction manager for work to be performed.

II.EARTHWORK

STANDARDS

This work shall be completed in conformance with the applicable sections of the Standard Specifications for Road and Bridge Construction, Department of Transportation, State of Illinois, latest edition except as modified below.

SOIL BORING DATA

Copies of results of soil boring and reports, if such borings were taken by the CLIENT in the vicinity of the proposed construction site, should be made available by the CLIENT to the CONTRACTOR. These borings are presented for whatever purpose the CONTRACTOR chooses to make of them. The ENGINEER makes no representation or warranty regarding the number, location, spacing or depth of borings taken, nor of the accuracy or reliability of the information given in the results thereof.

Further, the ENGINEER does not assume responsibility for the possibility that during construction, the soil and groundwater condition may be different than indicated. Neither does the ENGINEER assume responsibility for variations of soil and groundwater at location between borings. The CONTRACTOR is required to make its own borings, explorations and observations to determine soil and groundwater conditions.

EARTHWORK CALCULATIONS AND CROSS SECTIONS

The CONTRACTOR understands that any earthwork calculations, quantities or cross sections that have been furnished by the ENGINEER are for information only and are provided without any guarantee by the CLIENT or ENGINEER whatsoever as to their sufficiency or accuracy. CONTRACTOR warrants that he has performed his own subsurface investigations as necessary and his own calculations and cross sections to determine site soil conditions and earthwork volumes. The ENGINEER makes no representation or guarantee regarding earthwork quantities or that the earthwork for this project will balance due to the varying field conditions, changing soil types, allowable construction tolerances and construction methods that are beyond the control of the ENGINEER.

CLEARING, GRUBBING AND TREE REMOVAL

The site shall be cleared, grubbed, and trees and stumps removed where designated on the PLANS. Trees designated to remain shall be protected from damage.

TOPSOIL STRIPPING

Upon completion of demolition, clearing, grubbing and tree removal, all topsoil shall be stripped from under all buildings and pavements areas, and other areas necessary to complete the work. Topsoil stripped shall be placed in stockpiles in locations as designated by the CLIENT.

TOPSOIL RESPIREAD

Upon completion of roadway and/or parking lot improvements and installation of underground utilities a minimum of six inches (6") of topsoil shall be respread over all unupaved areas which have been disturbed by earthwork construction, except building pads and other designated areas, which shall be kept free from topsoil.

SEEDING

Upon completion of topsoil respread, the CONTRACTOR shall apply seed and fertilizer to all respread areas in accordance with IDOT standards or as designated on landscape drawings and specifications provided by the CLIENT.

SODDING

Upon completion of topsoil respread, the CONTRACTOR shall install sod to all areas designated on the plans or as designated on the landscape drawings and specifications provided by the CLIENT.

EXCAVATION AND EMBANKMENT

Upon completion of topsoil stripping, all excavation and embankments shall be completed as shown on the PLANS. All suitable excavated materials shall be placed, placed (material) and compacted in accordance with the PLANS. The CONTRACTOR shall include all dewatering, temporary ditching and culverts necessary to complete the excavation and embankment.

Specifically included in the scope of Excavation and Embankments is grading and shaping of all cut or fill areas including swales and ditches; handling of sewer spoil, etc., and all work required to provide positive drainage at the end of each working day and upon completion of a section.

The CONTRACTOR shall be responsible for the excavation of all swales and ditches and for the excavation or filling of the roads, building pads and parking lots within the work limits to lines & grades shown on the plans. He shall be responsible for obtaining compaction in accordance with the minimum values indicated on the table below for all embankments unless more stringent values are listed in the soils report or are approved by the CLIENT, and to use any method approved by the CLIENT necessary to obtain this compaction (i.e., soil fabric or any undercutting that may be required).

Percent Compaction	Pavement & Floor Slabs	Grass Areas
Standard	95%	90%
Sandy Soils	Modified Proctor	95%
Clayey Soils	Standard Proctor	95%

The CONTRACTOR shall notify the CLIENT if proper compaction cannot be obtained so that the CLIENT may determine what remedial measures may be needed.

A soils testing firm employed by the CLIENT shall determine which soils are unsuitable. Materials in their natural state being defined as unsuitable that would be suitable material if moisture conditioned, shall be conditioned by the CONTRACTOR and used as suitable embankment material or hauled from the site.

For purposes of definition, unsuitable material shall be as follows unless determined otherwise by the Soils Engineer:

- Any soil whose optimum moisture content exceeds 25%.
- Any cohesive soil with an unconfined compressive strength of 1.5 tons per square foot or less.
- Any soil whose silt content exceeds 60% by weight.
- Any soil whose maximum density is less than 100 pounds per cubic foot.
- Any soil containing organic, deleterious, or hazardous material.

Upon completion of excavation and shaping of the water retention areas intended to maintain a permanent pool of water, all silt seams and granular or sandy soils shall be removed to a minimum depth of three feet below the subgrade and replaced with an impermeable clay liner, including adjacent to and under the water retention areas and ditches and shall be compacted in accordance with the PLANS. The CONTRACTOR shall prepare the lake bottoms, side slopes, and compaction thereof such that the lakes will maintain the proposed normal water level and that leakage does not exceed 1/2 inch per week.

Ditches and swales are to be excavated to the lines and grades indicated on the PLANS. All suitable materials excavated from the ditches shall be used in construction of the embankments.

The CONTRACTOR shall notify the CLIENT immediately upon encountering groundwater during excavation. If in the opinion of the CLIENT or the JURISDICTIONAL GOVERNING ENTITY this condition necessitates the installation of perforated drain tile bedded in washed gravel or open storm sewer joints and shall be installed in accordance with the PLANS.

During excavation and embankment, grades may be adjusted to achieve an overall site earthwork balance. The CONTRACTOR shall cooperate fully with the CLIENT in adjustment of grades, construction methods and placement of material to meet the above goals and shall immediately advise CLIENT if he believes that the earthwork will not balance.

It is the intent of these PLANS that storm waters falling on the site be diverted into sedimentation / lake / detention basins during construction. The CONTRACTOR shall construct and maintain any temporary ditches or swales that are necessary to accomplish this priority to beginning mass excavation.

EROSION CONTROL

Suitable erosion control practices shall be maintained by the CONTRACTOR in accordance with Illinois Urban Manual and all applicable Soil Erosion and Sedimentation Control ordinances and the PLANS.

UNDERCUTTING DURING EARTHWORK

If the subgrade cannot be dried adequately by dicing as outlined above for placement of material to planned grades and if the CLIENT determines that the subgrade does not meet the standards set forth above, the CLIENT may require undercutting.

MISCELLANEOUS CONTRACT ITEMS

The following items may be required at the CLIENT's option, as indicated on the PLANS or as required by the JURISDICTIONAL GOVERNING ENTITY:

- GEOTEXTILE FABRIC
- EROSION CONTROL BLANKET

Geotextile fabric or approved equal shall be provided in areas as designated by the CLIENT, as indicated on the PLANS or as required by the JURISDICTIONAL GOVERNING ENTITY where proper compaction of embankments over existing soft soils is not possible. Geotextile fabric shall meet the material specifications of and shall be installed in accordance with the above standards.

III.UNDERGROUND IMPROVEMENTS

A. GENERAL

STANDARDS

All underground improvements shall be constructed and tested in accordance with the Standard Specifications for Water and Sewer Construction in Illinois and Standard Specifications for Road and Bridge Construction, Department of Transportation, State of Illinois, latest edition. In the event of conflicting guidelines, the more restrictive shall govern.

SELECTED GRANULAR BACKFILL

Selected Granular Backfill shall be required for all sewer and water main trenches lying under existing or proposed streets, driveways, parking lots and within 24" thereof, and where noted on PLANS. All material placed in such trenches shall be in accordance with the above standards.

MANHOLES, CATCH BASINS, INLETS & VALVE VAULTS

All Manholes, Catch Basins, Inlets, and Valve Vaults shall be constructed of reinforced precast concrete ring construction with tongue and groove joints in conformance with the latest revision of ASTM designation C478. All joints between sections and frames (except sanitary manholes, see Section IIB Manholes, below) shall be sealed with mastic tape bituminous joining compound. CONTRACTOR shall remove all excess mastic on inside of structure and buffer joints with mortar. Manholes are to have offset cones except that no cone shall be used on storm manholes 6'-0" deep or less in which case a reinforced concrete flat top section shall be used. All Manholes and Valve Vaults shall have concentric cones. Only concrete adjustment rings will be permitted where necessary and shall be limited to two adjustment rings totaling not more than 6" in height. All manholes and catch basin steps shall be copolymer polypropylene with continuous 3" steel reinforcement as manufactured by MA Industries, or approved equal.

'AUGER(BORING AND CASING-INTENTIONALLY' OMITTED'

'AUGER(OPEN BORE)-INTENTIONALLY OMITTED'

HORIZONTAL AND VERTICAL SEPARATION OF WATER AND SEWER MAINS

Horizontal and vertical separation of water and sewer mains shall be in accordance with Standard Specifications for Water and Sewer Construction in Illinois Section 41-2.01A and 41-2.01B and Standard Drawing 18, 19, 20, 21, 22, 23 and 24.

STRUCTURE ADJUSTMENTS

Structures shall be adjusted to the finished grade as shown on PLANS.

B. SANITARY SEWERS AND APPURTENANCES

SANITARY SEWER PIPE

Sanitary sewer pipe including building services, shall conform to the following:

- Polyvinyl Chloride (PVC) Sewer Pipe shall conform to ASTM D3034 (4-inch thru 15-inch) or ASTM F679 (18-inch thru 48-inch) minimum SDR 26 with flexible elastomeric seal gasket gasketed joints conforming to ASTM D3212 and F477.
- Ductile Iron Sewer Pipe shall conform with ANSI/AWWA C151/A21.51 Class 50, cement lined with push on type joints conforming to ANSI/AWWA C111/A21.11.

Sanitary sewers shall include bedding and backfilling.

MANHOLES

Manholes shall be constructed in conformance with Section IIIA Manholes, etc. above. The concrete base and bottom section shall be constructed of precast reinforced concrete monolithically cast sections including benches, pipe connection and invert flow lines. Manhole frame and lids shall be Neenah R-1772 or approved equal, with lids imprinted "SANITARY," with recessed pick holes. Manhole joints between adjustment rings and frames and between manhole sections shall be set on preformed plastic gasket consisting of a homogeneous blend of refined hydrocarbon resins and plasticizing compounds reinforced with inert mineral filler to provide a water tight seal. All pipe connection openings shall be precast with resilient rubber watertight pipe sleeves. A 10" elastomeric band (chimney seal) shall be installed extending from the manhole top to the manhole frame as shown on detail. Manholes shall include steps, frame & grate, bedding, and backfilling.

FOUNDATION, BEDDING AND HAUNCHING

Foundation, Bedding and Haunching shall be wet coarse aggregate or moist fine aggregate in accordance with the above standards and placed as shown on the detail.

TESTING

Sanitary sewers shall be air tested and tested for deflection in accordance with the requirements of Section 31-1.12 TESTING AND INSPECTION FOR ACCEPTANCE OF SANITARY SEWERS" of the Standard Specifications for Water and Sewer Construction in Illinois or the JURISDICTIONAL GOVERNING ENTITY, whichever is more restrictive. In addition, a televised inspection of the completed sanitary sewers shall be conducted and a copy of the videotape and report furnished to the JURISDICTIONAL GOVERNING ENTITY.

All sanitary manholes are to be tested for water tightness in accordance with ASTM C989 "Standard Practice for Infiltration and Exfiltration Acceptance Testing of Installed Precast Concrete Pipe Sewer Lines," or ASTM C1244 "Standard Test Method for Concrete Sewer Manholes by the Negative Pressure (Vacuum) Test".

SERVICES

A dry branch or "tee" and sanitary service line, properly plugged and sealed shall be constructed as shown on the PLANS. The ends of all services shall be marked with a 4"x4" post extending 36" above grade and painted red. The CONTRACTOR shall keep accurate records of all Wye or Tee locations as measured from the downstream manhole as well as the service lengths and furnish same to CLIENT.

RISEIS

Risers shall be constructed in locations as shown on the PLANS and according to the detail.

'DROP MANHOLE CONNECTIONS-INTENTIONALLY OMITTED'

'SANITARY SEWER FORCE MAIN- INTENTIONALLY OMITTED'

TELEVISION INSPECTION

Upon completion of construction a television inspection of the sanitary sewer system shall be performed on all portions of the sewer if required by the JURISDICTIONAL GOVERNING ENTITY. Videotapes and written report of all television inspections shall be provided to the CLIENT. The form of report and type and format of the videotape shall be approved by the JURISDICTIONAL GOVERNING ENTITY.

All sewers and appurtenances are to be tested for water tightness in accordance with the requirements of the Illinois Supplement thereto, (hereinafter referred to collectively as the "MUTCD"). Any references to "ENGINEER" in the "Standard Specifications" shall be interpreted as the CLIENT or CLIENT'S Construction Representative.

SUBGRADE PREPARATION

The CONTRACTOR shall be responsible for all subgrade compaction and preparation to the lines and grades shown on the plans.

AGGREGATE BASE COURSE TYPE 'B'

Aggregate Base Course Type B shall be limited to CA-6 or CA-10 gradation. Aggregate base courses shall be proof rolled as outlined below.

PROOF ROLL

The CONTRACTOR shall proof roll the subgrade with either a 2-axle truck loaded to 27,000 lbs. Or a 3-axle truck loaded to 45,000 lbs. or as specified by the JURISDICTIONAL GOVERNING ENTITY. The CLIENT and JURISDICTIONAL GOVERNING ENTITY shall observe and approve the proof rolling of the subgrade and the base course. Proof rolling tolerances shall be a maximum deflection of 1" for the subgrade and 1/2" for the base course. The above criteria is intended as a maximum and not a minimum. If the CLIENT or JURISDICTIONAL GOVERNING ENTITY determines that the proof rolling is not sufficient, the subgrade and/or base course shall be repaired and retested before proceeding with the pavement construction.

Pavement subgrade material shall not be removed, placed or disturbed after proof roll testing has been completed prior to the pavement construction. Additional testing will be required if the pavement subgrade is disturbed and/or material is removed from or placed on the pavement subgrade after proof rolling approval.

Trucks or heavy equipment shall not travel on any pavement subgrade after final testing prior to pavement construction.

HOT-MIX ASPHALT BASE COURSE

HMA Base Course shall meet the requirements of IDOT or N50 mix design as indicated and shown on the plans. The maximum amount of recycled asphalt pavement allowed shall be 30% in a N30 mix design and 25% in a N50 mix design.

HOT-MIX ASPHALT BINDER AND SURFACE COURSE

HMA binder and surface courses, shall be constructed to the compacted thickness as shown on the PLANS. The base course shall be cleaned and primed in accordance with the JURISDICTIONAL GOVERNING ENTITY. The surface course shall be placed after the base and courses have gone through one winter season, or as directed by the CLIENT. Before applying the surface course, the binder course shall be thoroughly cleaned and primed in accordance with the JURISDICTIONAL GOVERNING ENTITY. Prior to the placement of the surface course, the JURISDICTIONAL GOVERNING ENTITY shall examine the completed pavement, including curb and gutter, and all failures shall be corrected by the CONTRACTOR.

CONCRETE PAVEMENTS

Concrete pavements shall be constructed in accordance with American Concrete Institute Standard AC308R-08 and as shown on the PLANS.

Slots and driveway aprons shall be constructed with 6" x 6" - W1.4 x W1.4 welded wire fabric positioned on steel chair supports. Placing fabric during the concrete pouring operation will not be allowed.

Sawing of joints shall commence as soon as the concrete has cured and hardened sufficiently to permit sawing without excessive raveling, but no later than eight hours after the concrete has been placed. All joints shall be sawed to a depth equal to 1/3 of the pavement thickness before uncontrolled shrinkage cracking takes place. If necessary, the sawing operation shall occur during the day or at night, regardless of weekends, holidays or weather conditions. The CONTRACTOR shall be aware of jurisdictional noise ordinances and holiday restrictions for scheduling joint sawing.

The CONTRACTOR is responsible for guard fresh concrete until it sets and hardens sufficiently to prevent people from walking, walking, riding bicycles or otherwise permanently marking, defacing or causing depressions of any type in the concrete. Any concrete so marked will be removed and replaced by the CONTRACTOR at the CONTRACTOR'S expense.

The CONTRACTOR shall protect the pavement against all traffic, including that of their own employees or other workers, until test specimens have attained the specified strength.

SIDEWALKS

Concrete sidewalks shall be constructed to width and thickness as shown on the PLANS. Sidewalks shall be thickened to a minimum of 6" at all driveways. All sidewalks shall be IDOT Class II concrete, on aggregate base as shown on the detail. A 1/2" expansion joint shall be provided when meeting existing sidewalk.

CURB AND GUTTER

Curb and gutter shall be as per the detail shown on the PLANS, which shall include compacted aggregate base course under the curb and gutter. All contraction and expansion joints shall be constructed as per the detail.

CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT

The CONTRACTOR shall saw cut and remove the existing concrete curb where shown on the PLANS and install a curb of similar cross section and pavement to that removed (or depressed curb and gutter if shown on the PLANS). Upon completion of the curb and gutter any voids between the existing pavement and the new curb shall be filled with concrete to within 2" of the final surface, which is to be filled with bituminous pavement. The area below the curb shall be filled and compacted with embankment material within 6" of the top of the new curb. The CONTRACTOR shall then restore the remaining 6" to its original condition (i.e., sod, gravel, topsoil). Where proposed curb connects to an existing curb, the existing curb shall be saw cut and then two 18" long x 1/2" (H6) dowel bars shall be drilled and installed 9" into the existing and proposed curb. Bars shall be installed in a location similar to the expansion joint in the curb.

FRAME ADJUSTMENTS

The road contractor shall be responsible for making final adjustments and the setting on a bituminous mastic joining compound all castings located in the roadway, sidewalks, and parking areas prior to construction of any curbing, sidewalk, or final surface. Any structures that need to be lowered, or raised in excess of 4" shall be completed and the work backlogged against the underground contractor. This Contractor shall also be responsible for cleaning all of the above structures immediately upon completion of his phase of work. This work shall be incidental to the cost of the pavement.

PAVEMENT MARKING - PAINT

The CONTRACTOR shall furnish and apply painted marking lines, letters & symbols of the patterns, sizes and colors where shown on the PLANS. Paint pavement marking shall be applied in accordance with the IDOT Standard Specifications.

'PAVEMENT MARKING - THERMOPLASTIC- INTENTIONALLY OMITTED'

QUALITY CONTROL

The CONTRACTOR shall provide all testing necessary to ensure improvements are in accordance with the project specifications and provide testing documentation that specifications were met.

DRY CONNECTION TO EXISTING WATER MAIN

A dry connection to existing water main shall include a connection to an existing water main stub where shown on the PLANS. The CONTRACTOR shall obtain approval of the JURISDICTIONAL GOVERNING ENTITY to shut down any water main, including submittal of a schedule of the time of shut off and the time the line will be returned to service. All mains shut down that are opened to atmosphere must be disinfected prior to returning main into service.

POLYETHYLENE ENCASEMENT (FOR DUCTILE IRON WATER MAIN ONLY)

The CLIENT, or JURISDICTIONAL GOVERNING ENTITY may request that portions of the water main be encased in a polyethylene encasement in accordance with ANSI/AWWA C105/A21.5 should soil conditions so warrant its use.

FOUNDATION, BEDDING AND HAUNCHING

Foundation, Bedding and Haunching shall be wet coarse aggregate or moist fine aggregate in accordance with the above standards and placed as shown on the detail.

TRACER WIRE

If the distance between valves when installing PVC pipe exceeds 1,000', tracer wire stations will be required for current induction. Tracer wire stations in grass areas will be Rhino Triview Plus Tracing Wire Stations or approved equal. In paved areas, they will be Valvol Tracer Wire Access Box for HDD loading or approved equal. For open cut construction, using PVC pipe, a continuous, insulated, 12 gauge copper wire suitable for direct burial shall be taped on top of all piping to provide for locating following construction. This wire shall be securely terminated inside every valve vault on stainless steel hardware with an exposed lead of at least 12". A mechanically secured and soldered connection shall be provided for all wire splices. Where construction is by directional drilling or similar trenchless technology the tracer wire shall be 3/16" x 1/8 PVC coated stainless steel aircraft cable with minimum breaking strength of 3,700 lbs (Lexco, Chicago, IL) or Trace-Steel water blocking tracerwire RT series 19 gauge conductor (RT 1802W Water RT 1803W Sewer).

Before final approval of any water main, there will be a monitored tracer wire continuity test in order to confirm proper installation of any tracer wire.

D. STORM SEWERS AND APPURTENANCES

STORM SEWER PIPE

Storm sewer pipe shall conform to the following:

- Reinforced concrete pipe minimum Class IV in conformance with the latest revision of ASTM designation C76 with C361 or C443 flexible gasket joints, except that bituminous mastic joints may be used in grass areas.
- Polyvinyl Chloride (PVC) Pipe: ASTM D3034 (4-inch thru 15-inch) or ASTM F679 (18-inch thru 36-inch), rated SDR 35, continually marked with manufacturer's name, pipe size, cell classification, SDR rating. Joints shall be flexible elastomeric seals conforming to ASTM D3212.
- Ductile Iron Pipe (DIP) shall conform to ANSI/AWWA C15121.5, Class 50 cement lined with push on type joints conforming to ANSI/AWWA C111/A21.11.

Storm sewers may be constructed with reinforced concrete pipe using only flexible gasket joints (ASTM 361 or 443) for water main crossings.

Storm sewer shall include bedding and trench backfill.

MANHOLES, INLETS & CATCH BASINS

Manholes, Inlets and Catch Basins shall be constructed in conformance with Section IIIA Manholes, etc. above. The space between connecting pipes and the wall of the manhole shall be completely filled with non-shrink hydraulic cement mortar. Frames and lids shall be Neenah or approved equal unless specified otherwise on the PLANS. The manhole shall be provided with a grate which fully covers the opening plus 2" of the structure as a minimum. The grate shall be of the "Vane" Type frame & grate for all structures located over dry structures located over 2.0'. Manholes shall include steps, frame & grate, bedding and trench backfill.

FLARED END SECTION

Flared end sections shall be pre-cast reinforced concrete flared end section with an end block cast separate as per the Illinois Department of Transportation Standard S42301 and shall be installed where shown on the PLANS. All flared end sections for storm sewers 12" in diameter and larger shall be installed with a grating per Standard S42311 and/or as detailed on the PLANS. Work shall include end block.

RIP RAP

Stone rip rap consisting of pieces of 1/4" quality stone 4" to 8" in diameter shall be furnished and installed in accordance with IDOT Specifications and shall be placed where shown on the plans, to a minimum thickness of 12" and a width as indicated on the plans. Broken concrete or concrete blocks will not be accepted.

FOUNDATION, BEDDING AND HAUNCHING

Foundation, Bedding and Haunching shall be wet coarse aggregate or moist fine aggregate in accordance with the above standards and placed as shown on the detail.

UNDERDRAINS

Pipe underdrains shall be corrugated flexible plastic pipe conforming to AASHTO Designation M252 perforated corrugated polyethylene pipe (PE) with a smooth interior of the diameter indicated on the PLANS and wrapped in a soil filter fabric supplied and installed by the CONTRACTOR. Perforations may be circular or slotted, but shall provide a minimum inlet area of 1.0 square inch per 2.0 linear feet of pipe. CONTRACTOR shall submit fabric and pipe catalogue specifications for approval by the CLIENT. CONTRACTOR shall bed and backfill the underdrain in one of the following IDOT gradations of aggregate (CA-5, CA-7, CA-11, CA-14 or CA-15).

MISCELLANEOUS

(1) All existing field drainage lines or storm sewers encountered or damaged during construction shall either be restored to their original condition, properly rerouted and/or connected to the storm sewer system.

(2) Footing drains shall be connected to pump pumps or discharged directly into storm sewers. Footing drains or drainage tile shall not be connected to the sanitary sewer.

CONNECTION FOR STORM SERVICE TO STORM MAIN

Connections of storm sewer services to storm sewer mains should be made with manufactured tees when available. Availability of manufactured tees will be a function of the storm sewer material and pipe diameter size of the service sewer and main. If manufactured tees are not reasonably available, connections should be made in accordance with manufacturer's recommendations for all storm sewer other than concrete pipe. For concrete pipe connections without manufactured tees the storm sewer main shall be machine cored and the service sewer connected using

GENERAL NOTES

STORM SEWER NOTES (GENERAL)

STORM SEWER NOTES (STORM SEWER WORK IN PLANS)

STORM SEWER NOTES (STORM SEWER WORK IN PLANS) CONT.

EROSION CONTROL AND DRAINAGE NOTES (GENERAL)

EROSION CONTROL AND DRAINAGE NOTES (PROJECT SPECIFIC)

EROSION CONTROL AND DRAINAGE NOTES (NPDES PERMIT)

GEOMETRIC AND PAVING NOTES (GENERAL)

TRAFFIC CONTROL AND PROTECTION NOTES (GENERAL)

EROSION CONTROL AND DRAINAGE NOTES (PROJECT SPECIFIC)

SHOULD A CONFLICT ARISE BETWEEN THE MANHARD SPECIFICATIONS AND THE VILLAGE SPECIFICATIONS, THE VILLAGE SPECIFICATIONS TAKE PRECEDENCE.