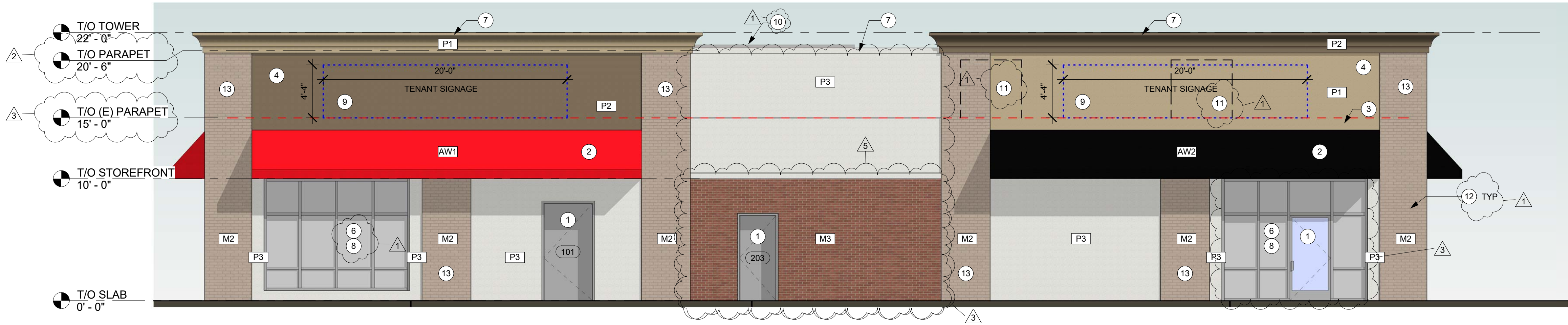
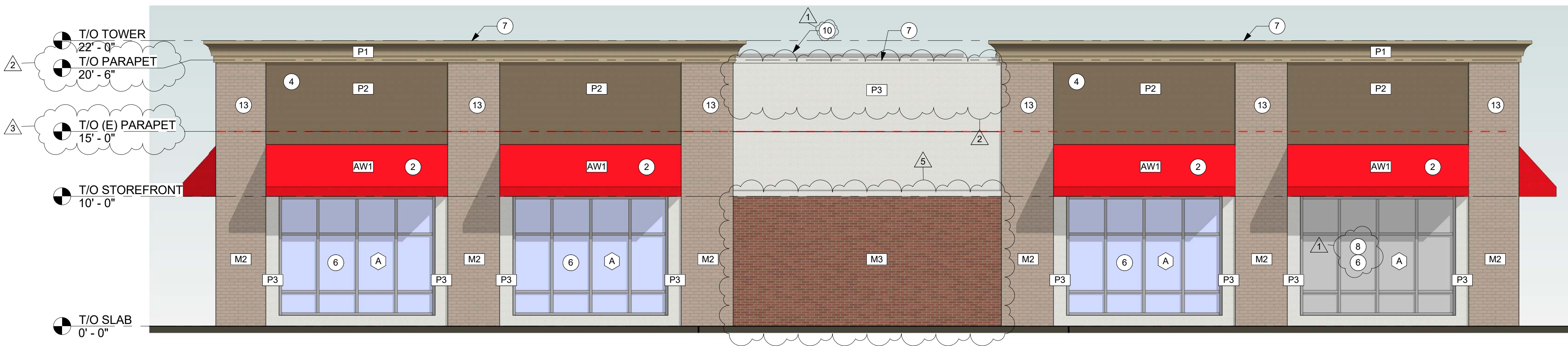


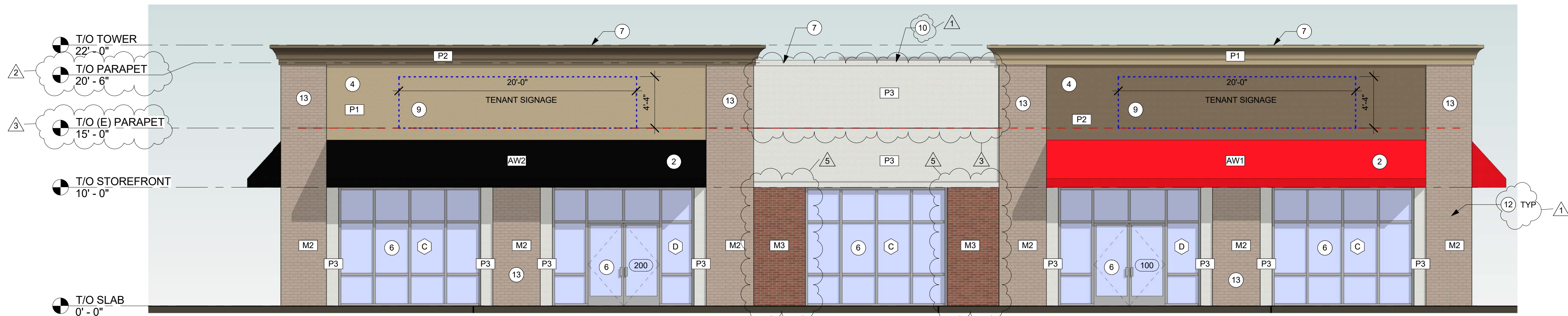
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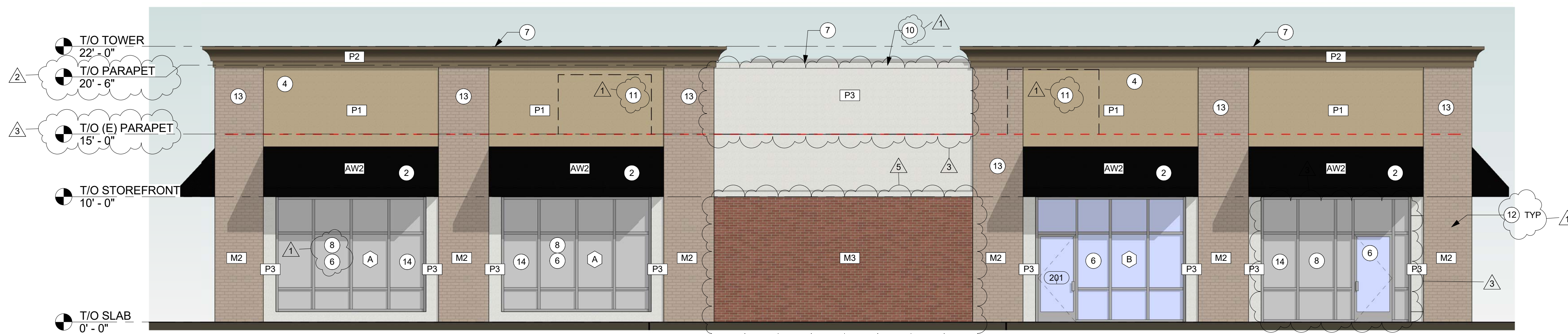
**4 WEST ELEVATION**  
SCALE : 3/16" = 1'-0"



**3 NORTH ELEVATION**  
SCALE : 3/16" = 1'-0"



**2 EAST ELEVATION**  
SCALE : 3/16" = 1'-0"



**1 SOUTH ELEVATION**  
SCALE : 3/16" = 1'-0"

## KEY NOTES

- DOOR, PAINT TO MATCH WALL
- PREFABRICATED CANVAS AWNING SYSTEM.
- ROOF LINE
- PARAPET WALL - SEE WALL SECTIONS
- STOREFRONT FACADE
- DOOR / WINDOW SYSTEM - SEE FLOOR PLAN AND SCHEDULE
- STUCCO TRIM - SEE PROFILE ON SHEET A4.1/A4.2
- SPANDREL GLAZING; APPLICATION OF WINDOW FILM REQUIRED PENDING FIELD REVIEW FOR ACCEPTANCE OF TONE
- LOCATION OF FUTURE SIGNAGE. PROVIDE PLYWOOD BACKING - SEE ELECTRICAL SHEETS
- EXISTING MECHANICAL ROOF SCREENS TO BE RETAINED (BACKGROUND)
- PROPOSED HVAC ROOFTOP UNITS
- LIGHT FIXTURE
- STO EIFS FINISH SYSTEM - STOCREATIVE BRICK (M2)
- WINDOW FILM ON SPANDREL GLASS (SOUTH ELEVATION ONLY), VILLAGE SAMPLE APPROVAL PRIOR TO INSTALLATION.

## GENERAL NOTES

- GENERAL CONTRACTOR TO VERIFY ALL GRADE ELEVATIONS
- PROVIDE PROPER FLASHING AT ALL REQUIRED AREAS TO ENSURE A WATERTIGHT CONDITION
- ALL CORNER BEADS TO BE 100% PLASTIC/VINYL, NO METAL

## EXTERIOR FINISH SCHEDULE

- P1** EIFS  
ICI DULUX - JEFFERSON TAN, # 30 YY 47/145 - SATIN
- P2** EIFS  
ICI DULUX - HALE VILLAGE, # 20 YY 22/129 - SATIN
- P3** STUCCO - OFF-WHITE,
- M2** STOCREATIV BRICK (EIFS)
- M3** VINTAGE BRICK VENEER  
NICHIIHA KURASTONE  
COLOR - ALEXANDRIA BUFF
- AW1** PREFABRICATED AWNING SYSTEM  
COLOR - SUNBRELLA - LOGO RED (6066-0000)
- AW2** PREFABRICATED AWNING SYSTEM  
COLOR - SUNBRELLA - BLACK (6008-0000)
- STOREFRONT WINDOW AND DOOR SYSTEM TO BE CLEAR ANODIZED ALUMINUM.
  - GUTTERS AND DOWNSPOUTS TO MATCH WALL COLOR

## PAINT NOTES

- REMOVE EFFLORESCENCE AND CHALK. DO NOT PAINT SURFACES IF MOISTURE CONTENT OR ALKALINITY OF SURFACES TO BE PAINTED EXCEEDS THAT PERMITTED IN MANUFACTURER'S WRITTEN INSTRUCTIONS.
- BEGIN COATING APPLICATION ONLY AFTER UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED AND SURFACES ARE DRY.
- APPLY PAINTS ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.

**IRELAND**  
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SERVICES LLC  
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www.unitedgrowth.com

DESCRIPTION  
APPEARANCE REVIEW RESPONSE  
PLAN CHECK RESPONSE  
CLARIFICATIONS  
FIELD CHANGES  
APPEARANCE REVIEW RESPONSE

REV 1 9/30/15  
2 11/18/15  
3 4/11/16  
4 5/26/16  
5 7/6/16

ISSUED  
1 9/30/15  
2 11/18/15  
3 4/11/16  
4 5/26/16  
5 7/6/16

DATE: 9-17-15

**NEW RETAIL DEVELOPMENT**  
29 ORLAND SQUARE DRIVE  
ORLAND PARK, ILLINOIS 60462-3206

DRAWING TITLE:

**EXTERIOR  
ELEVATIONS**

SCALE: 3/16" = 1'-0"

DATE: 09/18/2015

SHEET:

**A300**

FILE: IL-ORLAND PARK

# SITE IMPROVEMENT PLANS for

**SQUARE DR**  
**ORLAND PARK, ILLINOIS**  
**PROJECT NO:8573**

UG ORLAND PARK IL, LLC  
999 FIFTH AVENUE, SUITE 390  
SAN RAFAEL, CA 94901  
PHONE: (415) 707-7008

ZEPHYR ARCH  
2053 E. BAYSHORE ROAD #14  
REDWOOD CITY, CA 94063  
PHONE: (650) 861-1444  
FAX: (650) 839-1444

COUNTY: COOK  
CITY, TOWNSHIP ORLAND PARK, T36N  
SEC. & 1/4 SEC. NO. W 1/2 OF SW 1/4, SECTION 10

**48 HOURS BEFORE YOU DIG.**  
EXCLUDING SAT., SUN. & HOLIDAYS

## ELEVATION:

|              |  |
|--------------|--|
| DESCRIPTION: | SEE SHEET TS1 FOR<br>BENCHMARK INFORMATION |
|--------------|--|

SPACECO, INC. IS TO BE NOTIFIED AT LEAST  
THREE (3) DAYS PRIOR TO STARTING CONSTRUCTION  
AND SHALL BE INCLUDED IN THE PRECONSTRUCTION MEETINGS

## ORIGINAL PLAN DATE: AUGUST 5, 2015

| # | SHEET # | REMARKS         | DATE     |
|---|---------|-----------------|----------|
| 1 | 5,6     | PER CLIENT      | 08/11/15 |
| 2 | 2,3,5,6 | PER VILLAGE     | 11/23/15 |
| 3 | 2,8     | PER MWRD PERMIT | 01/18/16 |
| 4 | 1,2,6,8 | PER MWRD        | 03/31/16 |
| 5 | 1,6     | PER MWRD        | 04/27/16 |
| 7 | 7       | PER MWRD        | 06/08/16 |
| 8 | 5,6     | PER CLIENT      | 06/29/16 |

[illegible]

The map displays a grid of streets in the Orlando, Florida area. Major thoroughfares include US Highway 45 running vertically and West 151st Street running horizontally. A black square at the intersection of South 94th Avenue and West 151st Street is labeled 'PROJECT LOCATION'. To the north of this location is the large 'Orlando Square Mall'. The map also shows 'Schussler Park' to the northeast and 'Orlando Park' to the northwest. Numerous residential streets are shown, including West 143rd St, West 144th Pl, West 145th St, West 146th Pl, West 147th St, West 148th Pl, West 149th St, West 150th Pl, West 151st St, West 152nd St, West 153rd St, West 154th St, West 155th St, West 156th St, West 157th St, West 158th St, West 159th St, West 160th St, West 161st St, West 162nd St, West 163rd St, West 164th St, West 165th St, West 166th St, West 167th St, West 168th St, West 169th St, West 170th St, West 171st St, West 172nd St, West 173rd St, West 174th St, West 175th St, West 176th St, West 177th St, West 178th St, West 179th St, West 180th St, West 181st St, West 182nd St, West 183rd St, West 184th St, West 185th St, West 186th St, West 187th St, West 188th St, West 189th St, West 190th St, West 191st St, West 192nd St, West 193rd St, West 194th St, West 195th St, West 196th St, West 197th St, West 198th St, West 199th St, West 200th St. The map also shows several parks, including 'Schussler Park' and 'Orlando Park'. A compass rose in the bottom right corner indicates North is towards the top of the map.

PROFESSIONAL DESIGN FIRM NO.: 184-001157  
EXPIRATION DATE: 04/30/2017

THESE PLANS OR ANY PART THEREOF SHALL BE CONSIDERED VOID WITHOUT  
THE SIGNATURE, SEAL, AND EXPIRATION DATE OF SEAL



**FOR CONSTRUCTION**

**29 ORLAND SQUARE  
DRIVE RETAIL  
ORLAND PARK, ILLINOIS**

224½ N. Liberty Street, Morris, Illinois 60450  
Phone: (815) 941-0260 Fax: (815) 941-0263

**SITE DEVELOPMENT ENGINEERS**  
**LAND SURVEYORS**



LENNAME:  
573\_TITLE.dgn

DATE: 3/05/15

DB NO.  
573

SHEET

31

1. REFERENCED CODES

A. ALL PAVEMENT AND STORM SEWER CONSTRUCTION SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (SSRBC), AND SUPPLEMENTAL SPECIFICATIONS AND RECURRING SPECIAL PROVISIONS: ADOPTED JANUARY 1, 2012 BY ILLINOIS DEPARTMENT OF TRANSPORTATION AND ALL AMENDMENTS THEREON; AND IN ACCORDANCE WITH THE LATEST EDITION OF THE CODE OF THE MUNICIPALITY; EXCEPT AS MODIFIED HEREIN. IN CASE OF CONFLICT, MUNICIPAL CODE SHALL TAKE PRECEDENCE.

B. ALL SANITARY SEWER AND WATERMAIN CONSTRUCTION SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CODES, PUBLISHED JULY 2009, AND IN ACCORDANCE WITH THE CODE OF THE MUNICIPALITY; EXCEPT AS MODIFIED HEREIN OR BY ANY PUBLIC AGENCY PERMITS ISSUED FOR THIS WORK. IN CASE OF CONFLICT, THE MORE RESTRICTIVE PROVISIONS SHALL APPLY.

C. ALL SIDEWALK AND PUBLIC AREAS MUST BE CONSTRUCTED IN ACCORDANCE WITH CURRENT ADA, ILLINOIS HANDICAP ACCESSIBILITY AND ANY APPLICABLE LOCAL ORDINANCES. WHEN CONFLICTS EXIST BETWEEN THE GOVERNING AGENCIES, THE MORE STRINGENT SHALL GOVERN.

D. THE CITED STANDARD SPECIFICATIONS, CODES AND PERMITS, WITH THESE CONSTRUCTION PLANS AND DETAILS, ARE ALL TO BE CONSIDERED PARTS OF THE CONTRACT AND ACCESSORIES NECESSARY TO COMPLETE THIS WORK MAY NOT BE SPECIFICALLY NOTED BUT ARE CONSIDERED A PART OF THIS CONTRACT.

2. UTILITY LOCATIONS

A. THE UTILITY COMPANIES HAVE BEEN CONTACTED IN REFERENCE TO UTILITIES THEY OWN AND OPERATE WITHIN THE LIMITS FOR THIS PROJECT. DATA FROM THESE AGENCIES HAS BEEN INCORPORATED INTO THE PLANS. IT IS, HOWEVER, THE CONTRACTOR'S RESPONSIBILITY TO CONFIRM OR ESTABLISH THE EXISTENCE OF ALL UTILITY FACILITIES AND THEIR EXACT LOCATIONS, AND TO SAFELY SCHEDULE ALL UTILITY RELOCATIONS. FOR ADDITIONAL INFORMATION, THE AGENCIES LISTED ON THIS SHEET MAY BE CONTACTED.

B. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HAVING THE UTILITY COMPANIES LOCATE THEIR FACILITIES IN THE FIELD PRIOR TO CONSTRUCTION AND SHALL ALSO BE RESPONSIBLE FOR THE MAINTENANCE AND PRESERVATION OF THESE FACILITIES. THE ENGINEER DOES NOT WARRANT THE LOCATION OF ANY EXISTING UTILITIES SHOWN ON THE PLAN. THE CONTRACTOR SHALL CALL U.I.L.I.E., AT 800-892-0123 AND THE MUNICIPALITY FOR UTILITY LOCATIONS. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES AND THE MUNICIPALITY TWENTY-FOUR (24) HOURS PRIOR TO STARTING ANY CONSTRUCTION.

C. EASEMENTS FOR THE EXISTING UTILITIES, BOTH PUBLIC AND PRIVATE, AND UTILITIES WITHIN PUBLIC RIGHTS-OF-WAY ARE SHOWN ON THE PLANS ACCORDING TO AVAILABLE RECORDS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION IN THE FIELD OF THESE UTILITY LINES AND THEIR PROTECTION FROM DAMAGE AND PRIOR TO CONSTRUCTION OPERATIONS. IF EXISTING UTILITY LINES OF ANY NATURE ARE ENCOUNTERED WHICH CONFLICT WITH LOCATIONS OF THE NEW CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER SO THAT THE CONFLICT MAY BE RESOLVED.

3. UTILITY COORDINATION

A. OWNER SHALL OBTAIN EASEMENTS AND PERMITS NECESSARY TO FACILITATE CONSTRUCTION OF THE PROPOSED UTILITIES. THE CONTRACTOR, HOWEVER, SHALL FURNISH ALL REQUIRED BONDS AND EVIDENCE OF INSURANCE NECESSARY TO SECURE THESE PERMITS.

B. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE NATURE AND STATUS OF ALL UTILITY RELOCATION WORK PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO ENSURE THAT CONSTRUCTION OPERATIONS DO NOT INTERFERE WITH UTILITY FACILITIES AND RELOCATION WORK. THE SCHEDULE SHOULD REFLECT CONSTRUCTION COORDINATING WITH ALL UTILITY RELOCATION WORK. THE CONTRACTOR SHALL BE REQUIRED TO ADJUST THE ORDER OF ITS WORK FROM TIME TO TIME, TO COORDINATE SAME WITH UTILITY RELOCATION WORK, AND SHALL PREPARE REVISED SCHEDULE(S) IN COMPLIANCE THEREWITH AS DIRECTED BY THE OWNER.

C. THE OWNER AND THE ENGINEER SHALL BE NOTIFIED IN WRITING BY THE CONTRACTOR AT LEAST 48 HOURS PRIOR TO THE START OF ANY OPERATION REQUIRING COOPERATION WITH OTHERS. ATAT SHALL BE CONTACTED ONE MONTH PRIOR TO START OF CONSTRUCTION IN ITS UTILITY AREAS. ALL OTHER AGENCIES, UNLESS OTHERWISE NOTED, SHALL BE NOTIFIED IN WRITING BY THE CONTRACTOR TEN (10) DAYS PRIOR TO THE START OF ANY SUCH OPERATION.

4. NO PLAN SHALL BE USED FOR CONSTRUCTION UNLESS SPECIFICALLY MARKED "FOR CONSTRUCTION". PRIOR TO COMMENCEMENT OF CONSTRUCTION THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AFFECTING THE WORK WITH THE ACTUAL CONDITIONS AT THE JOB SITE. IN ADDITION, THE CONTRACTOR MUST VERIFY THE ENGINEER'S LINE AND GRADE STAKES. IF THERE ARE ANY DISCREPANCIES WITH WHAT IS SHOWN ON THE CONSTRUCTION PLANS, HE MUST IMMEDIATELY REPORT SAME TO ENGINEER BEFORE DOING ANY WORK. OTHERWISE THE CONTRACTOR ASSUMES FULL RESPONSIBILITY. IN THE EVENT OF DISAGREEMENT BETWEEN THE CONSTRUCTION PLANS, SPECIFICATIONS AND/OR SPECIAL DETAILS, THE CONTRACTOR SHALL SECURE WRITTEN INSTRUCTION FROM THE ENGINEER PRIOR TO PROCEEDING WITH ANY PART OF THE WORK AFFECTED BY OMISSIONS OR DISCREPANCIES. FAILING TO SECURE SUCH INSTRUCTION, THE CONTRACTOR WILL BE CONSIDERED TO HAVE PROCEEDED AT HIS OWN RISK AND EXPENSE. IN THE EVENT OF ANY DOUBT OR QUESTIONS ARISING WITH RESPECT TO THE TRUE MEANING OF THE CONSTRUCTION PLANS OR SPECIFICATIONS, THE DECISION OF THE ENGINEER SHALL BE FINAL AND CONCLUSIVE.

5. ALL PROPOSED ELEVATIONS SHOWN ON THE PLANS ARE FINISHED SURFACE ELEVATIONS, UNLESS OTHERWISE SPECIFIED.

6. UPON AWARDING OF THE CONTRACT, AND WHEN REQUIRED BY THE MUNICIPALITY OR OWNER, THE CONTRACTOR SHALL FURNISH A LABOR, MATERIAL AND PERFORMANCE BOND IN THE AMOUNT REQUIRED GUARANTEEING COMPLETION OF THE WORK. THE UNDERWRITER SHALL BE ACCEPTABLE TO THE MUNICIPALITY OR OWNER, AS APPROPRIATE.

7. THE CONTRACTORS SHALL PLAN THEIR WORK BASED ON THEIR OWN BORINGS, EXPLORATIONS AND OBSERVATIONS TO DETERMINE SOIL CONDITIONS AT THE LOCATION OF THE PROPOSED WORK. HOWEVER, IF THE OWNER HAS A SOILS REPORT, THE RESULTS WILL BE AVAILABLE FROM THE OWNER UPON WRITTEN REQUEST.

8. CONTRACTOR SHALL VIDEO TAPE WORK AREA PRIOR TO CONSTRUCTION FOR THE PURPOSE OF DOCUMENTING EXISTING CONDITIONS.

9. COMMENCING CONSTRUCTION

A. THE CONTRACTOR SHALL NOTIFY THE OWNER AND/OR HIS REPRESENTATIVE AND THE AFFECTED GOVERNMENTAL AGENCIES IN WRITING AT LEAST THREE (3) WORKING DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION. IN ADDITION, THE CONTRACTOR SHALL NOTIFY AS NECESSARY, ALL TESTING AGENCIES, EITHER MUNICIPALITY'S OR THE OWNER'S, SUFFICIENTLY IN ADVANCE OF CONSTRUCTION. ALL MATERIAL TESTING SHALL BE THE RESPONSIBILITY AND EXPENSE OF THE CONTRACTOR. THE TESTING AGENCY SHALL MEET THE APPROVAL OF THE OWNER.

B. FAILURE OF CONTRACTOR TO ALLOW PROPER NOTIFICATION TIME WHICH RESULTS IN TESTING COMPANIES TO BE UNABLE TO VISIT SITE AND PERFORM TESTING WILL CAUSE CONTRACTOR TO SUSPEND OPERATION (PERTAINING TO TESTING) UNTIL TESTING AGENCY CAN SCHEDULE TESTING OPERATIONS. COST OF SUSPENSION OF WORK TO BE BORNE BY CONTRACTOR.

10. ALL CONTRACTORS SHALL KEEP ACCESS AVAILABLE AT ALL TIMES FOR ALL TYPES OF TRAFFIC. AT NO TIME SHALL ACCESS BE DENIED TO ADJACENT PROPERTIES.

11. THE CONTRACTOR SHALL PRESERVE ALL CONSTRUCTION STAKES UNTIL THEY ARE NO LONGER NEEDED. ANY STAKES DESTROYED OR DISTURBED BY THE CONTRACTOR PRIOR TO THEIR USE SHALL BE RESET BY THE DEVELOPER'S ENGINEER AT CONTRACTOR'S COST.

12. ANY EXISTING SIGNS, LIGHT STANDARDS AND UTILITY POLES WHICH INTERFERE WITH CONSTRUCTION OPERATIONS AND NOT NOTED FOR DISPOSAL SHALL BE REMOVED AND RESET BY THE CONTRACTOR AT HIS OWN EXPENSE AS SHOWN ON THE ENGINEERING PLANS OR AS DIRECTED BY THE DEVELOPER. ANY DAMAGE TO THESE ITEMS SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT HIS OWN EXPENSE TO THE SATISFACTION OF THE OWNER. ANY SIGNS NOT REQUIRED TO BE RESET, SHALL BE DELIVERED TO THE RESPECTIVE OWNERS.

13. REMOVAL OF SPECIFIED ITEMS, INCLUDING BUT NOT LIMITED TO, PAVEMENT, SIDEWALK, CURB, CURB AND GUTTER, CULVERTS, ETC., SHALL BE DISPOSED OF OFF-SITE BY THE CONTRACTOR AT HIS OWN EXPENSE. HE IS RESPONSIBLE FOR ANY PERMIT REQUIRED FOR SUCH DISPOSAL.

14. ALL FIELD TILE ENCOUNTERED DURING CONSTRUCTION OPERATIONS SHALL BE CONNECTED TO THE PROPOSED STORM SEWER SYSTEM OR SHALL BE RESTORED TO PROPER OPERATING CONDITION. A RECORD OF THE LOCATION OF ALL FIELD TILE OR DRAIN PIPE ENCOUNTERED SHALL BE KEPT BY THE CONTRACTOR AND TURNED OVER TO THE ENGINEER, DEVELOPER OR MUNICIPAL ENGINEER UPON COMPLETION OF THE PROJECT. THE COST OF THIS WORK SHALL BE CONSIDERED AS INCIDENTAL TO THE CONTRACT AND NO ADDITIONAL COMPENSATION WILL BE ALLOWED.

15. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR SAFETY ON THE JOB.

16. THE CONTRACTOR SHALL COLLECT AND REMOVE ALL CONSTRUCTION DEBRIS, EXCESS MATERIALS, TRASH, OIL AND GREASE RESIDUE, MACHINERY, TOOLS AND OTHER MISCELLANEOUS ITEMS WHICH WERE NOT PRESENT PRIOR TO PROJECT COMMENCEMENT AT AN ADDITIONAL EXPENSE TO THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ANY AND ALL PERMITS NECESSARY FOR THE HAULING AND DISPOSAL REQUIRED FOR CLEAN-UP AS DIRECTED BY THE ENGINEER OR OWNER. BURNING ON THE SITE IS NOT PERMITTED.

17. ALL EXISTING UTILITIES OR IMPROVEMENTS, INCLUDING WALKS, CURBS, PAVEMENT AND PARKWAYS DAMAGED OR REMOVED DURING CONSTRUCTION SHALL BE PROMPTLY RESTORED TO THEIR RESPECTIVE ORIGINAL CONDITION. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT UNLESS SPECIFICALLY NOTED ON THE PLANS.

18. TREES NOT MARKED FOR REMOVAL SHALL BE CONSIDERED AS DESIGNATED TO BE SAVED AND SHALL BE PROTECTED UNDER THE PROVISIONS OF (SSRBC) ARTICLE 201.05.

19. LIMB PRUNING SHALL BE PERFORMED UNDER THE SUPERVISION OF THE LANDSCAPE ARCHITECT MEETING THE OWNER'S APPROVAL AND SHALL BE UNDERTAKEN IN A TIMELY FASHION SO AS NOT TO INTERFERE WITH CONSTRUCTION.

20. ALL LIMBS, BRANCHES, AND OTHER DEBRIS RESULTING FROM THIS WORK SHALL BE DISPOSED OF OFF-SITE BY THE CONTRACTOR AT HIS OWN EXPENSE OFF-SITE.

21. ALL CUTS OVER 1" IN DIAMETER SHALL BE MADE FLUSH WITH THE NEXT LARGE BRANCH. WOUNDS OVER 1" IN DIAMETER SHALL BE PAINTED WITH AN APPROVED TREE PAINT.

22. GENERAL EXCAVATION/UNDERGROUND NOTES

A. SLOPE SIDES OF EXCAVATIONS TO COMPLY WITH CODES AND ORDINANCES HAVING JURISDICTION. SHORE AND BRACE WHERE SLOPING IS NOT POSSIBLE EITHER BECAUSE OF SPACE RESTRICTIONS OR STABILITY OF MATERIAL EXCAVATED. MAINTAIN SIDES AND SLOPES OF EXCAVATIONS IN A SAFE CONDITION UNTIL COMPLETION OF BACKFILLING.

B. PROVIDE MATERIALS FOR SHORING AND BRACING, SUCH AS SHEET PILING, UPRIGHTS, STRINGERS AND CROSS BRACES, IN GOOD SERVICEABLE CONDITION. PROVIDE MINIMUM REQUIREMENTS FOR TRENCH SHORING AND BRACING TO COMPLY WITH CODES AND AUTHORITIES HAVING JURISDICTION. MAINTAIN SHORING AND BRACING IN EXCAVATIONS REGARDLESS OF TIME PERIOD EXCAVATIONS WILL BE OPEN. CARRY DOWN SHORING AND BRACING AS EXCAVATION PROGRESSES IN ACCORDANCE WITH OSHA AND GOVERNING AUTHORITY.

C. PREVENT SURFACE WATER AND SUBSURFACE OR GROUNDWATER FROM FLOWING INTO EXCAVATIONS. REMOVE WATER TO PREVENT SOFTENING OF FOUNDATION BOTTOMS, UNDERCUTTING FOOTINGS, AND SOIL CHANGES DETRIMENTAL TO STABILITY OF SUBGRADES AND FOUNDATIONS. PROVIDE AND MAINTAIN PUMPS, SUMPS, SUCTION AND DISCHARGE LINES AND OTHER Dewatering SYSTEM COMPONENTS NECESSARY TO CONVEY WATER AWAY FROM EXCAVATIONS. CONVEY WATER REMOVED FROM EXCAVATIONS AND RAINWATER TO COLLECTING OR RUN-OFF AREAS ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION. PROVIDE AND MAINTAIN TEMPORARY DRAINAGE DITCHES AND OTHER DIVERSIONS OUTSIDE EXCAVATION LIMITS FOR EACH STRUCTURE. DO NOT USE TRENCH EXCAVATIONS AS TEMPORARY DRAINAGE DITCHES.

D. IMMEDIATELY REPORT CONDITIONS THAT MAY CAUSE UNSOUND BEARING TO THE OWNER/DEVELOPER BEFORE CONTINUING WORK.

23. FINAL ACCEPTANCE

A. ALL WORK PERFORMED UNDER THIS CONTRACT SHALL BE GUARANTEED BY THE CONTRACTOR AND HIS SURETY FOR A PERIOD OF TWELVE (12) MONTHS FROM THE DATE OF FINAL ACCEPTANCE OF THE PROJECT AND THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ALL DEFECTS IN MATERIALS AND WORKMANSHIP OF W/ATEVER NATURE DURING THAT PERIOD. THIS GUARANTEE SHALL BE PROVIDED IN THE FORM OF MAINTENANCE BOND IN THE AMOUNT OF 10% OF THE COST OF IMPROVEMENTS.

B. BEFORE ACCEPTANCE BY THE OWNER AND FINAL PAYMENT, ALL WORK SHALL BE INSPECTED BY THE OWNER OR HIS REPRESENTATIVE. FINAL PAYMENT WILL BE MADE AFTER ALL THE CONTRACTOR'S WORK HAS BEEN APPROVED AND ACCEPTED.

C. NO UNDERGROUND WORK SHALL BE COVERED UNTIL IT HAS BEEN APPROVED BY THE MUNICIPALITY. APPROVAL TO PROCEED MUST BE OBTAINED FROM THE MUNICIPALITY PRIOR TO INSTALLING PAVEMENT BASE, BINDER, SURFACE, AND PRIOR TO PLACING ANY CONCRETE. AFTER FORMS HAVE BEEN SET.

D. AT THE CLOSE OF EACH WORKING DAY AND AT THE CONCLUSION OF CONSTRUCTION OPERATIONS, ALL DRAINAGE STRUCTURES AND FLOW LINES SHALL BE FREE FROM DIRT AND DEBRIS.

24. UNDERGROUND NOTES

A. UNDERGROUND WORK SHALL INCLUDE TRENCHING, INSTALLATION OF PIPE, CASTINGS, STRUCTURES, BACKFILLING OF TRENCHES AND COMPACTION AND TESTING AS SHOWN ON THE CONSTRUCTION PLANS. FITTINGS AND ACCESSORIES NECESSARY TO COMPLETE THE WORK MAY NOT BE SPECIFIED, BUT SHALL BE CONSIDERED AS INCIDENTAL TO THE COST OF THE CONTRACT.

B. WHERE SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER, EXISTING DRAINAGE STRUCTURES AND SYSTEMS SHALL BE CLEANED OF DEBRIS AND PATCHED AS NECESSARY TO ASSURE INTEGRITY OF THE STRUCTURE. THIS WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE EACH FOR STRUCTURES AND CONTRACT UNIT PRICE PER LINEAL FOOT FOR SYSTEMS WHICH SHALL BE PAYMENT IN FULL FOR CLEANING, PATCHING, REMOVAL AND DISPOSAL OF DEBRIS AND DIRT. DRAINAGE STRUCTURES AND SYSTEMS CONSTRUCTED AS PART OF THIS PROJECT SHALL BE MAINTAINED BY THE CONTRACTOR AT HIS EXPENSE. NO PAYMENT WILL BE MADE FOR CLEANING STRUCTURES OR SYSTEMS CONSTRUCTED AS PART OF THIS PROJECT.

C. ANY Dewatering OF SEWER AND WATER TRENCHES AS WELL AS TEMPORARY SHEETING OR BRACING THAT MAY BE REQUIRED SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL NOT BE CONSIDERED EXTRA WORK UNLESS THERE IS A SPECIFIC LINE ITEM FOR Dewatering. IN THE EVENT THAT SOFT MATERIALS WITH UNCONFINED COMPRESSIVE STRENGTH LESS THAN 0.5 TSF ARE ENCOUNTERED IN SEWER CONSTRUCTION, THE CONTRACTOR SHALL, UPON APPROVAL OF THE OWNER AND/OR ENGINEER, OVER-EXCAVATE TO A DEPTH OF ONE (1) FOOT BELOW THE BOTTOM OF THE PIPE AND BACKFILL WITH COMPACTED CRUSHED STONE, PROPERLY FORMED TO FIT THE BOTTOM OF THE PIPE.

D. TRENCH BACKFILL WILL BE REQUIRED FOR THE FULL TRENCH DEPTH WITHIN TWO (2) FEET OF PROPOSED OR EXISTING PAVEMENTS, UTILITIES, DRIVEWAYS, AND SIDEWALKS AND EXTENDING A DISTANCE EQUAL TO A 1:1 SLOPE FROM SUBGRADE ELEVATION TO TOP OF PIPE. THE TRENCH BACKFILL SHALL CONSIST OF GRANULAR MATERIAL MEETING DOT CA-6 GRADATION. THE TRENCH BACKFILL SHALL BE COMPACTED IN ACCORDANCE WITH (SSRBC) SPECIFICATIONS. JETTING WITH WATER SHALL NOT BE PERMITTED. THE COST OF SUCH CONSTRUCTION SHALL BE CONSIDERED INCIDENTAL TO THIS CONTRACT AND SHALL BE INCLUDED IN THE UNIT PRICE OF THE PIPE. NO SEPARATE PAYMENT SHALL BE MADE FOR THIS ITEM.

E. THE CONTRACTOR SHALL INSTALL A 4" X 4" X 8" (NOMINAL) POST AT THE TERMINUS OF THE SANITARY, WATER AND STORM SERVICE, SANITARY AND STORM MANHOLES, CATCH BASINS, INLETS AND WATER VAULTS. THE POST SHALL EXTEND 4' ABOVE THE GROUND. THE TOP 12" OF SAID POST SHALL BE PAINTED AS FOLLOWS: SANITARY - RED, WATERMAIN - BLUE, STORM - GREEN.

F. AFTER THE STORM SEWER SYSTEM HAS BEEN CONSTRUCTED, THE CONTRACTOR SHALL PLACE EROSION CONTROL AT REAR YARD INLET LOCATIONS, AND AT OTHER LOCATIONS SELECTED BY THE ENGINEER, TO MINIMIZE THE AMOUNT OF SILTATION WHICH NORMALLY WOULD ENTER THE STORM SEWER SYSTEM.

G. HYDRANTS SHALL NOT BE FLUSHED DIRECTLY ON THE ROAD SUBGRADES. WHENEVER POSSIBLE, HOSES SHALL BE USED TO DIRECT THE WATER INTO LOT AREAS OR THE STORM SEWER SYSTEM (IF AVAILABLE). DAMAGE TO THE ROAD SUBGRADE OR LOT GRADING DUE TO EXCESSIVE WATER SATURATION AND/OR EROSION FROM HYDRANT FLUSHING, OR FROM LEAKS IN THE WATER DISTRIBUTION SYSTEM, WILL BE REPAIRED BY THE CONTRACTOR AT HIS COST.

H. ALL TOP OF FRAMES FOR STORM AND SANITARY SEWERS AND VALVE VAULT COVERS ARE TO BE ADJUSTED TO MEET FINAL FINISH GRADE. THIS ADJUSTMENT IS TO BE MADE BY THE SEWER AND WATER CONTRACTOR AND THE COST IS TO BE CONSIDERED INCIDENTAL TO THESE ADJUSTMENTS TO FINISHED GRADE WHICH WILL NOT ALLEVATE THE CONTRACTOR FROM ANY ADDITIONAL ADJUSTMENTS AS REQUIRED BY THE MUNICIPALITY UPON FINAL INSPECTION OF THE PROJECT. FINAL GRADES TO BE DETERMINED BY THE MUNICIPALITY AT THE TIME OF FINAL INSPECTION AND MAY VARY FROM PLAN GRADES.

25. SLEEVES FOR UTILITY (COWED, TELEPHONE, ETC.) STREET CROSSING, SHALL BE INSTALLED WHERE DIRECTED BY THE OWNER. SLEEVES SHALL BE 6" PVC INSTALLED 36" BELOW THE TOP OF CURB AND EXTEND TWO FEET OUTSIDE THE CURB. TRENCH SHALL BE BACKFILLED WITH COMPACTED GRANULAR MATERIAL.

26. THE CONTRACTOR SHALL VERIFY THE SIZE AND INVERT ELEVATION OF ALL CONNECTIONS TO AVOID ANY CONFLICTS BEFORE STARTING WORK. NOTIFY OWNER OF ANY DISCREPANCIES.

27. IT SHALL BE UNDERSTOOD THAT NEITHER THE MUNICIPALITY, ITS OFFICIALS, CONSULTANTS, NOR ITS EMPLOYEES ARE AGENTS OF OR REPRESENTATIVES OF THE OWNER. NONE-THE-LESS, THE MUNICIPALITY, ITS OFFICIALS AND EMPLOYEES ARE TO BE PROVIDED SAFE ACCESS TO ALL PHASES OF ALL WORK PERFORMED ON THE PROJECT SITE TO MONITOR THE UTILITY OF THE WORK AND ASSURE ITS CONFORMITY WITH THE PLANS AND SPECIFICATIONS. THERE SHALL BE NO PERSONAL LIABILITY UPON ANY OFFICIAL OR EMPLOYEE OF THE MUNICIPALITY ON ACCOUNT OF ACTIONS TAKEN OR NOT TAKEN IN THE COURSE OF THEIR WORK. THE CONTRACTOR MUST AT ALL TIMES MAINTAIN A SAFE ACCESS TO THE WORK FOR INSPECTORS, OWNER, AND OTHERS. MEANING CONDITIONS COMPLYING WITH ALL PROVISIONS OF ALL APPLICABLE AND RECOGNIZED SAFETY STANDARDS, FEDERAL, STATE AND LOCAL. IF ACCESS IS NOT SAFE AND INSPECTIONS CANNOT BE MADE UNDER SAFE CONDITIONS, THE INSPECTOR CAN ORDER CESSATION OF THE WORK SO AFFECTED UNTIL SUCH TIME AS CONTRACTOR PROVIDES SAFE ACCESS.

28. TYPICAL ASPHALT PAVEMENT SECTION (PASSENGER VEHICLE PARKING AREAS) N.T.S.

29. TYPICAL SIDEWALK/PEDESTRIAN PATH SECTION N.T.S.

30. TYPICAL SIDEWALK/PEDESTRIAN PATH SECTION N.T.S.

ABBREVIATIONS

M = STORM MANHOLE  
S = SANITARY MANHOLE  
CB = CATCH BASIN  
LP = LIGHT POLE  
VV = VALVE VAULT  
E = END SECTION  
FH = FIRE HYDRANT  
GR = GRADE RING (HYDRANT)

I = INVERT OR INLET  
TF = TOP OF FOUNDATION  
GF = GARAGE FLOOR  
TO = TOP OF CURB  
TD = TOP OF DEPRESSED CURB  
TW = TOP OF RETAINING WALL  
BW = BOTTOM OF RETAINING WALL  
OP = OUTLET OF PIPE

T/P = TOP OF PIPE  
B/P = BOTTOM OF PIPE  
WM = WATERMAIN  
SAN = SANITARY SEWER  
STM = STORM SEWER  
LO = LOOK OUT  
PLO = PARTIAL LOOK OUT

PERMITS

| DESCRIPTION | LOG NO. | PERMIT NO. | DATE ISSUED |
|-------------|---------|------------|-------------|
|             |         |            |             |
|             |         |            |             |
|             |         |            |             |
|             |         |            |             |

BENCH MARK

SQUARE CUT ON LIGHT POLE IN ISLAND. ±142' SOUTHEAST OF SOUTHEAST CORNER OF BUILDING. PER ROAKE AND ASSOCIATES, INC. DATED 08/28/14.

ELEV. = 710.08

CONTACT INFORMATION

GENERAL D SERVICES  
CONTACT: 403-5300

LEGEND

| EXISTING | DESCRIPTION                                     | PROPOSED |
|----------|---|----------|
|          | DRAIN TILE                                      |          |
|          | STORM SEWER                                     |          |
|          | SANITARY TRUNK SEWER                            |          |
|          | WATER MAIN (WITH SIZE)                          |          |
|          | PIPE TRENCH BACKFILL                            |          |
|          | GAS MAIN  |          |
|          | TELEPHONE LINES                                 |          |
|          | ELECTRIC LINE                                   |          |
|          | FENCE   |          |
|          | RIGHT-OF-WAY                                    |          |
|          | EASEMENT  |          |
|          | PROPERTY LINE                                   |          |
|          | SETBACK LINE                                    |          |
|          | CENTERLINE                                      |          |
|          | CONTOUR   |          |
|          | SANITARY MANHOLE                                |          |
|          | STORM MANHOLE                                   |          |
|          | CATCH BASIN                                     |          |
|          | INLET   |          |
|          | FIRE HYDRANT                                    |          |
|          | PRESSURE CONNECTION                             |          |
|          | PIPE REDUCER                                    |          |
|          | VALVE AND VAULT, VALVE                          |          |
|          | FLARED END SECTION                              |          |
|          | STREET LIGHT                                    |          |
|          | UTILITY POLE                                    |          |
|          | CONTROL POINT                                   |          |
|          | SIGN  |          |
|          | SPOT ELEVATION XXX.XX                           |          |
|          | SOIL BORING                                     |          |
|          | OVERLAND FLOW ROUTE                             |          |
|          | DRAINAGE SLOPE                                  |          |
|          | GUARDRAIL                                       |          |
|          | WATER'S EDGE                                    |          |
|          | CONCRETE  |          |
|          | REVERSE PITCH CURB                              |          |
|          | TREE, FIR TREE, BUSH, & PROPOSED TREE TO REMOVE |          |

13. SOIL STOCKPILES SHALL, AT A MINIMUM, BE PROTECTED WITH PERIMETER SEDIMENT CONTROLS. SOIL STOCKPILES SHALL NOT BE PLACED IN FLOOD PROTECTION AREAS OR NEAR RIVERS.

14. EARTHEN EMBANKMENT SIDE SLOPES SHALL BE STABILIZED WITH APPROPRIATE EROSION CONTROL BLANKET.

15. STORM SEWERS THAT ARE OR WILL BE FUNCTIONING DURING CONSTRUCTION SHALL BE PROTECTED BY APPROPRIATE SEDIMENT CONTROL MEASURES.

16. THE CONTRACTOR SHALL EITHER REMOVE OR REPLACE ANY EXISTING DRAIN TILES AND INCONVERT THEM INTO THE DRAINAGE PLAN FOR THE DEVELOPMENT. DRAIN TILES CANNOT BE TRIBUTARY TO A SANITARY OR COMBINED SEWER.

17. IF Dewatering SERVICES ARE USED, ADDITIONAL PROPERTIES AND DISCHARGE LOCATIONS SHALL BE PROTECTED FROM EROSION AND SEDIMENTATION. Dewatering SYSTEMS SHOULD BE INSPECTED DAILY DURING OPERATIONAL PERIODS. THE SITE INSPECTOR MUST BE PRESENT AT THE COMMENCEMENT OF Dewatering ACTIVITIES.

18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRENCH Dewatering AND EXCAVATION FOR THE INSTALLATION OF SANITARY SEWERS, STORM SEWERS, WATERMANS, CATCH BASINS AND OTHER APPURTENANCES. ANY TRENCH Dewatering, WHICH CONTAINS SEDIMENT SHALL PASS THROUGH A SEDIMENT SETTLING POND OR EQUIVALENT. THE SEDIMENTING CONTROL DEVICES ALTERNATIVES MAY INCLUDE Dewatering INTO A SUMP PIT, FILTER BAG OR EXISTING VEGETATED UPLAND AREA. SEDIMENT LAGOON WATERS SHALL NOT BE DISCHARGED TO WATERWAYS, FLOOD PROTECTION AREAS OR THE COMBINED SEWER SYSTEM.

19. ALL PERMANENT EROSION CONTROL MEASURES SHALL BE INITIATED WITHIN SEVEN (7) DAYS FOLLOWING THE COMPLETION OF SOIL DISTURBING ACTIVITIES.

20. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED AND REPAIRED AS NEEDED ON A YEAR-ROUND BASIS DURING CONSTRUCTION AND ANY PROGRESS OF CONSTRUCTION SHUTDOWN UNTIL PERMANENT STABILIZATION IS ACHIEVED.

21. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN THIRTY (30) DAYS AFTER PERMANENT SITE STABILIZATION.

22. THE EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL MEASURES MAY BE REQUIRED, AS DIRECTED BY THE ENGINEER, SITE INSPECTOR, OR MWDO.

4. REFERENCED SPECIFICATIONS

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE APPLICABLE SECTIONS OF THE FOLLOWING, TO BE CONSIDERED INCIDENTAL TO THESE ADJUSTMENTS TO FINISHED GRADE WHICH WILL NOT ALLEVATE THE CONTRACTOR FROM ANY ADDITIONAL ADJUSTMENTS AS REQUIRED BY THE MUNICIPALITY UPON FINAL INSPECTION OF THE PROJECT. FINAL GRADES TO BE DETERMINED BY THE MUNICIPALITY AT THE TIME OF FINAL INSPECTION AND MAY VARY FROM PLAN GRADES.

1. STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (LATEST EDITION), BY THE ILLINOIS DEPARTMENT OF TRANSPORTATION AND ALL AMENDMENTS THEREON, INCLUDING SEWER AND WATER MAIN CONSTRUCTION.

2. STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS, LATEST EDITION (SSRBC) FOR SANITARY SEWER AND WATER MAIN CONSTRUCTION.

3. ILLINOIS DEPARTMENT OF TRANSPORTATION DISTRICT OF SOUTHERN ILLINOIS (MWDO) WATERSEWER MANAGEMENT ORDINANCE AND TECHNICAL GUIDANCE MANUAL.

4. ILLINOIS DEPARTMENT OF TRANSPORTATION DISTRICT OF SOUTHERN ILLINOIS (MWDO) WATERSEWER MANAGEMENT ORDINANCE AND TECHNICAL GUIDANCE MANUAL.

5. ILLINOIS DEPARTMENT OF TRANSPORTATION DISTRICT OF SOUTHERN ILLINOIS (MWDO) WATERSEWER MANAGEMENT ORDINANCE AND TECHNICAL GUIDANCE MANUAL.

5. REFERENCES

1. THE MWDO LOCAL SEWER SYSTEM SECTION FIELD OFFICE MUST BE NOTIFIED AT LEAST TWO (2) WORKING DAYS PRIOR TO THE COMMENCEMENT OF ANY WORK (CALL 708-868-4000).

2. THE VILLAGE OF ENGINEERING DEPARTMENT AND PUBLIC MUST BE NOTIFIED AT LEAST 24 HOURS PRIOR TO THE START OF CONSTRUCTION AND PRIOR TO EACH PHASE OF WORK. CONTRACTOR SHALL ESTABLISH STORM REQUIREMENTS PRIOR TO START OF CONSTRUCTION OR EACH WORK PHASE.

3. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION FOR THE EXACT LOCATIONS OF ALL UTILITIES AND THEIR PROTECTION DURING CONSTRUCTION. IF EXISTING UTILITIES ARE ENCOUNTERED THAT COMPLY WITH CONSTRUCTION WITH NEW CONSTRUCTION, IMMEDIATELY NOTIFY THE ENGINEER THAT THE CONFLICT CAN BE RESOLVED. CALL U.I.L.I.E. AT 1-800-892-0123.

6. GENERAL NOTES

1. ALL ELEVATIONS SHOWN ON PLANS REPRESENT THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD83). CONVERSION FACTOR IS \_\_\_\_\_ FEET.

2. MWDO, THE MUNICIPALITY AND THE OWNER OR OWNER'S REPRESENTATIVE SHALL HAVE THE AUTHORITY TO INSPECT, APPROVE, AND REJECT THE CONSTRUCTION IMPROVEMENTS.

3. THE CONTRACTOR(S) SHALL INDEMNIFY THE OWNER, ENGINEER, MUNICIPALITY, MWDO, AND THEIR AGENTS, ETC. FROM ALL LIABILITY INVOLVED WITH THE CONSTRUCTION, INSTALLATION, OR TESTING OF THIS WORK ON THE PROJECT.

4. THE PROPOSED IMPROVEMENTS MUST BE CONSTRUCTED IN ACCORDANCE WITH THE ENGINEERING PLANS AS DEVELOPED BY MWDO AND THE MUNICIPALITY UNLESS OTHERWISE APPROVED BY MWDO. THE MUNICIPALITY OR AUTHORIZED AGENT, THE CONSTRUCTION DETAILS, AS PRESENTED ON THE PLANS, MUST BE FOLLOWED. PROPER CONSTRUCTION TECHNIQUES MUST BE FOLLOWED ON THE IMPROVEMENTS.

5. THE LOCATION OF VARIOUS UNDERGROUND UTILITIES WHICH ARE SHOWN ON THE PLANS ARE FOR INFORMATION ONLY AND REPRESENT THE BEST KNOWLEDGE OF THE ENGINEER. VERIFY LOCATIONS AND ELEVATIONS PRIOR TO BEGINNING THE CONSTRUCTION OPERATIONS.

6. ANY EXISTING MANHOLES, SEWERAL, DRIVEWAY, ETC., DAMAGED DURING CONSTRUCTION OPERATIONS AND NOT CALLED FOR TO BE REMOVED SHALL BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR.

7. MATERIAL AND COMPACTION TESTING SHALL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THE MUNICIPALITY, MWDO, AND OWNER.

8. THE UNDERGROUND CONTRACTOR SHALL HAVE ALL NECESSARY ARRANGEMENTS TO NOTIFY ALL INSPECTION AGENCIES.

9. ALL NEW AND EXISTING UTILITY STRUCTURES ON SITE AND IN AREAS DISTURBED DURING CONSTRUCTION SHALL BE ADJUSTED TO FINISH GRADE PRIOR TO FINAL INSPECTION.

10. RECORD DRAWINGS SHALL BE KEPT BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER AS SOON AS UNDERGROUND IMPROVEMENTS ARE COMPLETED. FINAL PAYMENTS TO THE CONTRACTOR SHALL BE HELD UNTIL THEY ARE RECEIVED. ANY CHANGES IN EXISTING LOCATIONS OR ALIGNMENT SHALL BE SHOWN IN RED. ALL VIEWS OF RECORD SHALL BE LOCATED FROM THE DOWNSTREAM MANHOLE. ALL VALVES, B-SIGNS, TEES OR BENDS SHALL BE TIED TO A FIRE HYDRANT.

7. SANITARY SEWERS

1. THE CONTRACTOR SHALL TAKE MEASURES TO PREVENT ANY POLLUTED WATER, SUCH AS GROUND AND SURFACE WATER, FROM ENTERING EXISTING SANITARY SEWERS.

2. A WATER-TIGHT PLUG SHALL BE INSTALLED IN THE DOWNSTREAM SEWER PIPE AT THE POINT OF SEWER CONNECTION TO CORRECTING ANY SEWER CONSTRUCTION. THE PLUG SHALL REMAIN IN PLACE UNTIL REMOVAL IS AUTHORIZED BY THE MUNICIPALITY AND/OR INSPECTOR. THE SEWERS HAVE BEEN TESTED AND ACCEPTED.

3. ANY UNPOLLUTED WATER ENTERING THE SANITARY SEWER SYSTEM FOR THE PURPOSE OF SEWER FLUSHING OF LINES FOR THE DEFLECTION TEST SHALL BE PROHIBITED WITHOUT PRIOR APPROVAL OF THE MUNICIPALITY, MWDO, AND OWNER.

4. ALL SANITARY SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION IN ILLINOIS (LATEST EDITION).

5. ALL FLOOR DRAINS SHALL DISCHARGE TO THE SANITARY SEWER SYSTEM.

6. ALL DOWNPOUTS AND FOOTING DRAINS SHALL DISCHARGE TO THE STORM SEWER SYSTEM.

7. ALL SANITARY SEWER PIPE MATERIALS AND JOINTS IN A COMBINED SEWER AREA SHALL CONFORM TO THE FOLLOWING:

| PIPE MATERIAL                        | PIPE SPECIFICATIONS | JOINT SPECIFICATIONS       |
|--------------------------------------|---------------------|----------------------------|
| VITRIFIED CLAY PIPE                  | ASTM C-700          | ASTM C-425                 |
| REINFORCED CONCRETE SEWER PIPE       | ASTM C-76           | ASTM C-443                 |
| CAST IRON SOIL PIPE                  | ASTM A-14           | ASTM C-564                 |
| DUCTILE IRON PIPE                    | ANSI A21.51         | ANSI A21.11                |
| POLYMER CHLORIDE (PVC) PIPE          | ASTM D-3034         | ASTM D-3212                |
| 6-INCH TO 15-INCH DIAMETER SOIL 26   | ASTM D-3034         | ASTM D-3212                |
| 16-INCH TO 24-INCH DIAMETER (PVC) 40 | ASTM D-3034         | ASTM D-3212                |
| HIGH DENSITY POLYETHYLENE (HDPE)     | ASTM D-3350         | ASTM D-3201 (HEAT FUSION)  |
| WATER MAIN QUALITY PVC               | ASTM D-3035         | ASTM D-3212-477 (GASKETED) |
| 4-INCH TO 36-INCH                    | ASTM D-2241         | ASTM D-2677 OR ASTM D-3139 |
| 4-INCH TO 15-INCH                    | ASTM D-2241         | ASTM D-3212                |
| 14-INCH TO 48-INCH                   | AWWA C905           | ASTM D-3212                |

8. EROSION AND SEDIMENT CONTROL

1. THE CONTRACTOR SHALL INSTALL THE EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.

2. EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE FUNCTIONAL PRIOR TO HYDROLOGIC DISTURBANCE OF THE SITE.

3. ALL EROSION AND SEDIMENTATION, AND INSTALLATION OF EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IN ACCORDANCE WITH THE ILLINOIS URBAN MANUAL.

4. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.

5. INSPECTIONS AND DOCUMENTATION SHALL BE PERFORMED AT A MINIMUM:

- A) UPON COMPLETION OF INITIAL EROSION AND SEDIMENT CONTROL MEASURES, PRIOR TO ANY SOIL DISTURBANCE.
- B) ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM EVENT WITH GREATER THAN 0.5 INCH OF RAINFALL OR LIQUID EQUIVALENT PRECIPITATION.

6. SOIL DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER AS TO MINIMIZE EROSION. DISTURBED AREAS SHALL BE PROTECTED WITH TEMPORARY OR PERMANENT MEASURES WITHIN THIRTY (30) DAYS AFTER PERMANENT SITE STABILIZATION.

7. A STABILIZED MAT OF CRUSHED STONE MEETING THE STANDARDS OF THE ILLINOIS URBAN MANUAL SHALL BE USED TO PROTECT EXPOSED AREAS FROM EROSION AND SEDIMENTATION. THE CO-PERMITTEE SHALL PLAN FOR APPROPRIATE SOIL EROSION AND SEDIMENT CONTROL MEASURES.

8. ALL SANITARY SEWER PIPE MATERIALS AND JOINTS IN A COMBINED SEWER AREA SHALL CONFORM TO THE FOLLOWING:

9. TEMPORARY DIVERSIONS SHALL BE CONSTRUCTED AS NECESSARY TO DIRECT ALL RUNOFF FROM HYDROLOGICALLY DISTURBED AREAS TO AN APPROPRIATE STORM OR SEWER. VOLUME OF EXISTING UTILITY LINES SHALL NOT BE USED AS TEMPORARY DIVERSIONS.

10. DISTURBED AREAS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CREASED SHALL BE STABILIZED WITH TEMPORARY OR PERMANENT MEASURES WITHIN THIRTY (30) DAYS.

11. ALL FLOOD PROTECTION AREAS AND VOLUME CONTROL FACILITIES SHALL, AT A MINIMUM, BE PROTECTED WITH A DOUBLE ROW OF SILT FENCE (OR EQUIVALENT).

12. VOLUME CONTROL FACILITIES SHALL NOT BE CONSTRUCTED UNTIL, ALL OF THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.

TECHNICAL GUIDANCE MANUAL

7/1/15

STD. DWG. NO.18

PAGE NO. 19

TYPICAL SECTIONS AND GENERAL NOTES

4 03/31/16 PER MWDO

3 01/18/16 PER MWDO PERMIT

2 11/23/15 PER VILLAGE

NO. DATE REMARKS

NO. DATE REMARKS

29 ORLAND SQUARE DRIVE RETAIL ORLAND PARK, ILLINOIS

224 1/2 Liberty Street, Morris, Illinois 60403 Phone: (815) 941-0260 Fax: (815) 941-0263

FILENAME: 8573GMO1.dgn

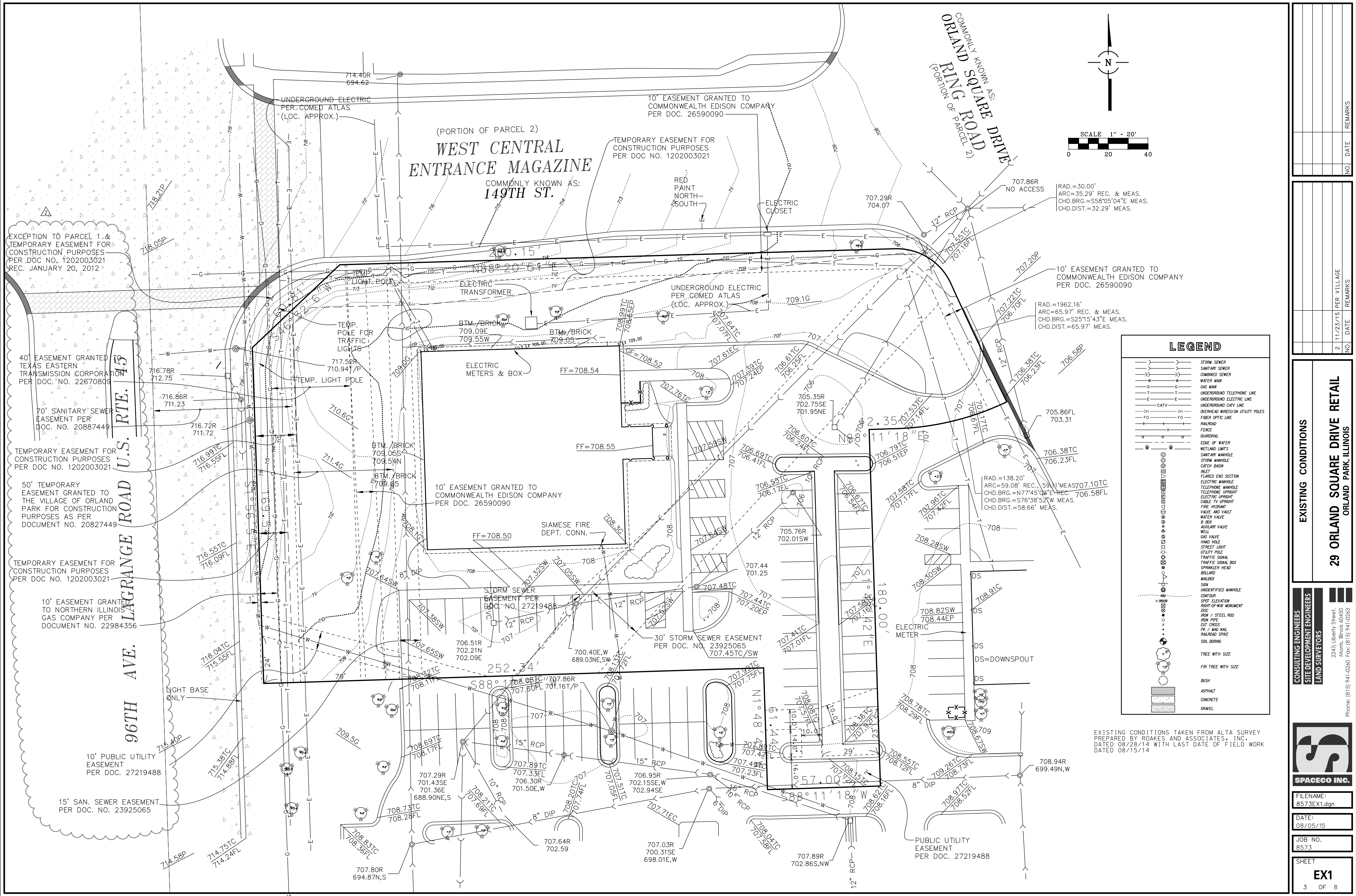
DATE: 08/05/15

JOB NO. 8573

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2 OF 8

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| EXISTING CONDITIONS                                    |
|--|
| 29 ORLAND SQUARE DRIVE RETAIL<br>ORLAND PARK, ILLINOIS |

| CONSULTING ENGINEERS   |
|--|
| SITE DEVELOPMENT ENGINEERS   |
| LAND SURVEYORS   |
| 224 1/2 Liberty Street,<br>Morris, Illinois 60450<br>Phone: (815) 941-0260 Fax: (815) 941-0263 |

| SPACECO INC.             |
|--------------------------|
| FILENAME:<br>8573EX1.dgn |
| DATE:<br>08/05/15        |
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| SHEET<br>EX1<br>3 OF 8   |





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| 8   | 06/29/16 | PER CLIENT  |  |
| 2   | 11/23/15 | PER VILLAGE |  |
| 1   | 08/11/15 | PER CLIENT  |  |
| NO. | DATE     | REMARKS     |  |

GEOMETRIC PLAN

29 ORLAND SQUARE DRIVE RETAIL  
ORLAND PARK, ILLINOIS

CONSULTING ENGINEERS  
SITE DEVELOPMENT ENGINEERS  
LAND SURVEYORS

224 1/2 Liberty Street,  
Morris, Illinois 60450  
Phone: (815) 941-0260 Fax: (815) 941-0203



FILENAME:  
8573GM1.dgn

DATE:  
08/05/15

JOB NO.  
8573

SHEET

**GM1**

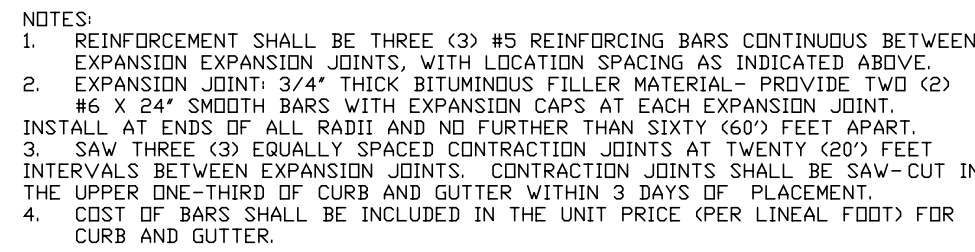
5 OF 8



|  |  |
|--|--|
| <p>This Soil Erosion &amp; Sediment Control (SESC) Plan has been prepared to fulfill one of the requirements of the National Pollution Discharge Elimination System (NPDES) General Permit, ILRPO-NA. The SESC Plan should be maintained on site as an integral component of the Storm Water Pollution Prevention Plan (SWPPP). The SWPPP, including the SESC Plan, should be amended whenever there is a change in design, construction, operation, or maintenance which has a significant effect on the potential for the discharge of pollutants to the Waters of the State and which has not otherwise been addressed in the SWPPP. The SWPPP shall also be amended if it proves to be ineffective in eliminating or significantly minimizing pollutants, or in otherwise achieving the general objective of controlling pollutants in storm water discharges associated with construction site activity. In addition, the SWPPP shall be amended to identify any new contractor and/or subcontractor that will implement a measure of the SWPPP.</p> <p><b>1. SITE DESCRIPTION</b></p> <p>A. The following is a description of the nature of the construction activity: <u>pavement removal and installation, topsoil removal for sidewalk installation</u>.</p> <p>B. The following is a description of the intended sequence of construction activities which will disturb soils for major portions of the construction site:</p> <p><b>Describe proposed construction sequence, sample follows:</b></p> <ol style="list-style-type: none"> <li>Install perimeter sediment control measures       <ol style="list-style-type: none"> <li>Selective vegetation removal for silt fence installation</li> <li>Silt fence installation</li> <li>Construction fencing around areas not to be disturbed</li> <li>Stabilized construction entrances</li> <li>Clear and grub (as necessary)</li> <li>Construct sediment traps (sediment traps, detention basins, etc.)</li> <li>Construct detention facilities and outlet control structure with restrictor &amp; temporary perforated riser</li> <li>Stockpile topsoil stockpile topsoil and grade site</li> <li>Temporarily stabilize topsoil stockpiles (seed and silt fence around toe of slope)</li> <li>Install storm sewer, sanitary sewer, watermain and associated inlet &amp; outlet protection</li> <li>Permanently establish detention basins with seed and erosion control blankets</li> <li>Temporarily stabilize all areas including lots that have reached mass grade</li> <li>Install roadways</li> <li>Permanently stabilize all outdoor areas</li> <li>Install buildings and grade individual lots</li> <li>Permanently stabilize lots</li> <li>Remove all temporary soil erosion and sediment control measures after the site is stabilized with vegetation</li> </ol> </li> <li>The site has a total acreage of approximately <u>1.7</u> acres. Construction activity will disturb approximately <u>0.087</u> acres of the site.</li> <li>1) An estimated runoff coefficient of the site after construction activities are completed is <u>N/A</u>.<br/>2) Existing data describing the soil or quality of any discharge from the site is included in <u>NA</u>.</li> <li>Refer to Sheets <u>5</u> for a site plan indicating:       <ol style="list-style-type: none"> <li>drainage patterns</li> <li>approximate slopes anticipated before and after major grading activities</li> <li>locations where vehicles enter or exit the site and controls to minimize off-site sediment tracking</li> <li>areas of soil disturbance</li> <li>the location of major structural and nonstructural controls;</li> <li>the location of areas where stabilization practices are expected to occur;</li> <li>surface waters (including wetlands); and</li> <li>locations where storm water is discharged to a surface water.</li> </ol> </li> <li>1) The name of the receiving water(s) is(are): <u>existing storm sewer</u>.<br/>2) The name of the ultimate receiving water is: <u>" "</u>.<br/>3) The extent of wetland coverage at the site is <u>0</u> acres.</li> <li>Potential sources of pollution associated with this construction activity may include:       <ul style="list-style-type: none"> <li>- sediment from disturbed soils</li> <li>- mobile sanitary stations</li> <li>- fuel tanks</li> <li>- strapping areas</li> <li>- portable toilets</li> <li>- chemical storage areas</li> <li>- oil or other petroleum products</li> <li>- adhesives</li> <li>- tar</li> <li>- solvents</li> <li>- detergents</li> <li>- fertilizers</li> <li>- raw material (e.g., bagged Portland cement)</li> <li>- construction debris</li> <li>- landscape waste</li> <li>- concrete and concrete trucks</li> <li>- litter</li> </ul> </li> <li><b>CONTROLS</b></li> </ol> <p>This section of the SESC Plan addresses the various controls that should be implemented for each of the construction activities described in the "Site Description" section. For each measure identified in the SWPPP, the contractor(s) or subcontractor(s) that will implement the measure should be identified. All contractors and subcontractors that are identified should be required to sign a copy of the certification statement from Part V.C. of the ILRII Permit in accordance with Part V.C. - Signatory Requirements, of the ILRII Permit. All signed certification statements should be maintained in the SWPPP.</p> <p><b>A. Approved State or Local Plans</b></p> <p>The management practices, controls and other provisions contained in the SWPPP should be at least as protective as the requirements contained in the Illinois Environmental Protection Agency's (IEPA) and the United States Department of Agriculture's Natural Resource Conservation Service Illinois Urban Manual, 2012, Requirements specified in sediment and erosion control site plans or site permits or storm water management site plans or site permits approved by local officials that are applicable to protecting surface water resources are, upon submittal of a Notice of Intent (NOI) to be authorized to discharge under the ILRII permit, incorporated by reference and are enforceable under the ILRII permit even if they are not specifically included in a SWPPP required under the ILRII permit. This provision does not apply to provisions of master plans, comprehensive plans, non-enforceable guidelines or technical guidance documents that are not identified in a specific plan or permit that is issued for the construction site.</p> <p>The soil erosion and sediment control measures for this site should meet the requirements of the following agencies:</p> <ul style="list-style-type: none"> <li>- Municipality (be specific)</li> <li>- County Agency and/or SDCD (be specific)</li> <li>- IEPA</li> <li>- U.S. Army Corps of Engineers</li> </ul> <p><b>B. Control Implementation Schedule</b></p> <p>Best Management Practices will be implemented on an as-needed basis to protect water quality. Perimeter controls of the site should be installed prior to soil disturbance (excluding soil disturbance necessary to install the controls), including demolition activities. Perimeter controls, including the silt fence, should be actively maintained until stabilization of those portions of the site upward of the perimeter control. Stabilized construction entrances and sediment traps should be installed as described in the intended sequence of construction activities. The contractor is responsible for the adequate protection (including sediment control) of existing sewers and sewer structures during construction operations. As necessary, the appropriate sediment control measure should be installed prior to land disturbing activities.</p> <p>Stabilization measures should be initiated where construction activities have temporarily or permanently ceased, in accordance with Local Ordinances. When construction activity in an area has permanently ceased, that area should be permanently stabilized. Temporary perimeter controls should be removed after final stabilization of those portions of the site upward of the perimeter control.</p> <p><b>C. Erosion and Sediment Controls</b></p> <p>The appropriate soil erosion and sediment controls should be implemented on site and should be modified to reflect the current phase of construction. All temporary sediment and erosion control measures should be repaired or replaced as soon as practicable to maintain NPDES compliance. Permittee or an authorized agent is responsible for inspecting all sediment and erosion control measures at a minimum of every 7 calendar days and within 24 hours, or one working day, of the end of a 0.5-inch (or greater) rain event.</p> <p>Unless otherwise indicated, all vegetative and structural erosion and sediment control practices should be installed to the Standard Practice. The contractor is responsible for the installation of any additional erosion and sediment control measures necessary to minimize erosion and sedimentation as determined by the Engineer or Primary Contact.</p> <p>1) Stabilization Practices - Areas that will not be paved or covered with non-erosive material should be stabilized using procedures in substantial conformance with the Illinois Urban Manual. This SESC Plan includes site-specific soil erosion and sediment control measures. Additional erosion controls should be implemented as necessary, as determined by the Engineer or Primary Contact.</p> <p>The following temporary and permanent stabilization practices, at a minimum, are proposed:</p> <ul style="list-style-type: none"> <li>- permanent seeding</li> <li>- temporary seeding</li> <li>- erosion control blanket</li> <li>- other measures</li> </ul> <p>Site-specific scheduling of the implementation of these practices is included in the Soil Protection Chart. A record of the dates when major grading activities occur, when construction activities cease on a portion of the site, and when stabilization measures are initiated should be included in the SWPPP.</p> <p>Stabilization of disturbed areas must be initiated within 1 working day of permanent or temporary cessation of earth activities and shall be completed as soon as possible but not later than 14 days from the initialization of stabilization work in an area. Exceptions to these time frames are specified below.</p> <ol style="list-style-type: none"> <li>Where the initiation of stabilization measures is precluded by snow cover, stabilization measures shall be initiated as soon as practicable.</li> <li>In areas where construction activity has temporarily ceased and will resume after 14 days, a temporary stabilization method can be used. Temporary stabilization techniques and materials shall conform to the SWPPP.</li> </ol> <p>2) Structural Practices - Provided below is a description of structural practices that should be implemented, to the degree attainable to divert flows from exposed soils, store flows or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Structural practices should be placed on upland soils to the degree practicable. The installation of the following devices may be subject to Section 404 of the Clean Water Act:</p> <ul style="list-style-type: none"> <li>- stabilized construction entrance</li> <li>- silt fence</li> <li>- sediment trap (provide locations and dimensions in plan set)</li> <li>- other measures</li> </ul> | <p>D. Storm Water Management</p> <p>Provided below is a description of measures that will be installed during the construction process to control the pollutants in storm water after the construction activities have been completed. The installation of these devices may be subject to Section 404 of the Clean Water Act.</p> <ol style="list-style-type: none"> <li>The practices selected for implementation were determined on the basis of technical guidance contained in IEPA's Illinois Urban Manual, Federal, State, and/or Local Requirements. The storm water management measures include:       <ul style="list-style-type: none"> <li>- detention basins (wet basins, dry basins, etc.)</li> <li>- retention basins</li> <li>- vegetated swales</li> <li>- infiltration trenches</li> <li>- other measures</li> </ul> </li> <li>Velocity dissipation devices, such as rip-rap aprons at flared end sections or level spreaders, shall be placed at discharge locations and along the length of any outfall channel as necessary to provide a non-erosive velocity flow from the structure to a watercourse so that the natural, physical, and biological characteristics and functions are maintained and protected (e.g., maintenance of hydrologic conditions, such as the hyporheic and hydrodynamics present prior to the initiation of construction activities).</li> </ol> <p><b>E. Waste Management</b></p> <p>Soil waste materials including trash, construction debris, excess construction materials, machinery, tools and other items will be collected and stored on site. It is the responsibility of the contractor to ensure that the permit required for such disposal. Burning on site will not be permitted. No solid materials, including building materials, shall be discharged to Waters of the State, except as authorized by a Section 404 permit. All waste materials should be collected and stored in approved receptacles. No wastes should be placed in any location other than in the approved containers appropriate for the materials being discarded. There should be no liquid wastes deposited into dumpsters or other containers which may leak. Receptacles with deficiencies should be replaced as soon as possible and the appropriate clean-up procedure should take place. If necessary, construction waste material is not to be buried on site. Waste disposal should comply with all Local, State, and Federal regulations.</p> <p>On-site hazardous material storage should be minimized and stored in labeled, separate receptacles from non-hazardous waste. All hazardous waste should be disposed of in the manner specified by Local or State regulation or by the manufacturer.</p> <p><b>F. Concrete Waste Management</b></p> <p>Concrete waste or washout should not be allowed in the street or allowed to reach a storm water drainage system or watercourse. When practicable, a sign should be posted at each location to identify the washout. To the extent practicable, concrete washout areas should be located a reasonable distance from a storm water drainage inlet or watercourse, and should be located at least 10 feet behind the curb. If the washout area is adjacent to a paved road, a stabilized entrance that meets Illinois Urban Manual standards should be installed at each washout area.</p> <p>The containment facilities should be of sufficient volume to completely contain all liquid and concrete waste materials including enough capacity for anticipated levels of rainfall. The dried concrete waste material should be picked up and disposed of properly when 65% capacity is reached. Hardened concrete can be properly recycled and used again on site (as approved by the Engineer) or hauled off site to an appropriate landfill.</p> <p><b>G. Concrete Cutting</b></p> <p>Concrete waste management should be implemented to contain and dispose of saw-cutting slurries. Concrete cutting should not take place during or immediately after a rainfall event. Waste generated from concrete cutting should be cleaned-up and disposed into the concrete washout facility as described above.</p> <p><b>H. Vehicle Storage and Maintenance</b></p> <p>When not in use, construction vehicles should be stored in a designated area(s) outside of the regulatory floodplain, away from any natural or created watercourse, pond, drainage way or storm drain. Controls should be installed to minimize the potential of runoff from the storage area(s) from reaching storm drains or water courses. Vehicle maintenance (including both routine maintenance as well as on-site repairs) should be made within a designated area(s) to prevent the migration of mechanical fluids (oil, antifreeze, etc.) into watercourses, wetlands or storm drains. Drip pans or absorbent pads should be used for all vehicle and equipment maintenance activities that involve grease, oil, solvents, or other vehicle fluids. Construction vehicles should be inspected frequently to identify any leaks. Leaks should be reported immediately to the vehicle owner and repaired. Dispose of all used oil, oil, antifreeze, solvents and other vehicle-related chemicals in accordance with United States Environmental Protection Agency (USEPA) and IEPA regulations and per Material Safety Data Sheet (MSDS) and/or manufacturer instructions. Contractors should immediately report spills to the Primary Contact.</p> <p><b>I. Material Storage and Good Housekeeping</b></p> <p>Materials and/or contaminants should be stored in a manner that minimizes the potential to discharge into storm drains or watercourses. An on-site area should be designated for material storage and storage. All materials kept on site should be stored in their original containers with legible labels, and if possible, under a roof or other enclosure. Labels should be replaced if damaged or difficult to read. Bermed-off storage areas are an acceptable control measure to prevent contamination of storm water. MSOs should be available for referencing clean-up procedures. Any release of chemicals/contaminants should be immediately cleaned up and disposed of properly. Contractors should immediately report all spills to the Primary Contact, who should notify the appropriate agencies, if needed.</p> <p>To reduce the risks associated with hazardous materials on site, hazardous products should be kept in original containers unless they are not re-sealable. The original labels and MSDS should be retained on site at all times. Hazardous materials and all other material on site should be stored in accordance with the requirements of the ILRII Permit. Materials should be stored in a secure area, free from unauthorized access, and should be protected from fire. Containers of hazardous materials, follow manufacturer or Local and State recommended methods.</p> <p>The following good housekeeping practices should be followed on site during the construction project:</p> <ul style="list-style-type: none"> <li>- An effort should be made to store only enough product required to do the job.</li> <li>- All materials stored on site should be stored in a neat, orderly manner in their appropriate containers and adequately protected from the environment.</li> <li>- Products should be kept in their original containers with the original manufacturer's label.</li> <li>- Substances should not be mixed with one another unless recommended by the manufacturer.</li> <li>- Operations should be observed as necessary to ensure proper use and disposal of materials on site.</li> <li>- Whenever possible, all of a product should be used up before disposing of the container.</li> <li>- Manufacturer's recommendations for proper use and disposal should be followed.</li> </ul> <p><b>J. Management of Portable Sanitary Stations</b></p> <p>To the extent practicable, portable sanitary stations should be located in an area that does not drain to any protected natural areas, Waters of the State, or storm water structures and should be anchored to the ground to prevent from tipping over. Portable sanitary stations located on impervious surfaces should be equipped with a secondary containment device, or be surrounded by a control device (e.g., gravel-bag berm). The contractor should not create or allow unsanitary</p> |
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| EARTHWORK NOTES                              |  |
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| 1.   | GENERAL  |
| A.   | IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE SOIL AND GROUNDWATER CONDITIONS AT THE SITE. THE CONTRACTOR SHALL OBTAIN AND READ THE GEOTECHNICAL REPORTS AVAILABLE FROM THE OWNER.   |
| B.   | ANY QUANTITIES IN THE BID PROPOSAL ARE INTENDED AS A GUIDE FOR THE CONTRACTORS USE IN DETERMINING THE SCOPE OF THE COMPLETED PROJECT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ALL MATERIAL QUANTITIES AND APPRAISE HIMSELF OF ALL SITE CONDITIONS. THE CONTRACT PRICE SUBMITTED BY THE CONTRACTOR SHALL BE CONSIDERED AS LUMP SUM FOR THE COMPLETE PROJECT. NO CLAIMS FOR EXTRA WORK WILL BE RECORDED UNLESS IN WRITING BY THE OWNER. |
| C.   | THE CONTRACTOR WILL NOTE THAT THE ELEVATIONS SHOWN ON THE CONSTRUCTION PLANS ARE FINISHED GRADE ELEVATIONS AND THAT PAVEMENT THICKNESS, TPOISIL, ETC. MUST BE SUBTRACTED TO DETERMINE SUBGRADE ELEVATIONS.   |
| D.   | THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE DURING CONSTRUCTION AND PREVENT STORMWATER FROM RAINFALLING OR STANDING IN EXCAVATION AREAS. THE FAILURE TO PROVIDE PROPER DRAINAGE WILL NEGATE ANY POSSIBLE ADDED COMPENSATION REQUESTED DUE TO DELAYS OR UNSUITABLE MATERIALS CREATED AS A RESULT THEREOF. FINAL GRADES SHALL BE PROTECTED AGAINST DAMAGE FROM EROSION, SEDIMENTATION AND TRAFFIC.   |
| E.   | PLANS FOR THE SITE DEWATERING, IF EMPLOYED, SHALL BE SUBMITTED TO AND APPROVED BY THE OWNER PRIOR TO CONSTRUCTION. NO ADDITIONAL COMPENSATION SHALL BE MADE FOR DEWATERING DURING CONSTRUCTION.  |
| F.   | THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION OF THE "SOIL EROSION AND SEDIMENTATION CONTROL MEASURES". THE INITIAL ESTABLISHMENT OF EROSION CONTROL PROCEDURES AND THE PLACEMENT OF SLOPE AND FILTER FENCING, ETC. TO PROTECT ADJACENT PROPERTY, WETLANDS, ETC. SHALL OCCUR BEFORE MASS GRADING BEGINS.  |
| G.   | PRIOR TO COMMENCEMENT OF GRADING ACTIVITIES, THE CONTRACTOR SHALL ERECT A "SNOW FENCE" AROUND ANY TREE DESIGNATED TO BE PRESERVED. SAID FENCE SHALL BE PLACED IN A CIRCLE CENTERED AROUND THE TREE, WITH THE DIAMETER OF WHICH SHALL BE SUCH THAT THE ENTIRE DRIP ZONE (EXTENT OF FURTHEST EXTENDING BRANCHES) SHALL BE WITHIN THE FENCE LIMITS. THE EXISTING GRADE WITHIN THE FENCED AREA SHALL NOT BE DISTURBED.                               |
| H.   | EXCESS MATERIALS, IF NOT UTILIZED AS FILL SHALL BE COMPLETELY REMOVED FROM THE CONSTRUCTION SITE AND DISPOSED OF OFF-SITE BY THE CONTRACTOR.   |
| I.   | GEOTECHNICAL FABRIC, IF AUTHORIZED BY THE OWNER, SHALL BE "SUPAC SNA", "MIRAFI 160" OR EQUAL, INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.  |
| 2.   | TPOISIL EXCAVATION INCLUDES:   |
| A.   | EXCAVATION OF TPOISIL AND OTHER STRUCTURELY UNSUITABLE MATERIALS WITHIN THOSE AREAS THAT WILL REQUIRE EARTH EXCAVATION OR COMPACTED EARTH FILL MATERIAL. EXISTING VEGETATION SHALL BE REMOVED PRIOR TO STRIPPING TPOISIL OR FILLING AREAS.   |
| B.   | PLACEMENT OF THE EXCAVATED MATERIAL IN OWNER DESIGNATED AREAS FOR FUTURE USE WITHIN AREAS TO BE LANDSCAPED, AND THOSE AREAS NOT REQUIRING STRUCTURAL FILL MATERIAL. PROVIDE NECESSARY EROSION CONTROL MEASURES FOR STOCKPILE.  |
| C.   | TPOISIL STOCKPILED FOR SPREADSHALL BE FREE OF CLAY AND SHALL NOT CONTAIN ANY OF THE TRANSITIONAL MATERIAL BETWEEN THE TPOISIL AND CLAY. THE TRANSITIONAL MATERIAL SHALL BE USED IN NON-STRUCTURAL FILL AREAS OR DISPOSED OF OFF-SITE.  |
| D.   | TPOISIL RESPAD SHALL INCLUDE HAULING AND SPREADING 6" OF TPOISIL OVER AREAS TO BE LANDSCAPED WHERE SHOWN ON THE CONSTRUCTION PLANS.  |
| E.   | MODERATE COMPACTION IS REQUIRED IN NON-STRUCTURAL FILL AREAS.  |
| 3.   | EARTH EXCAVATION INCLUDES:   |
| A.   | EXCAVATION OF CLAY AND OTHER MATERIALS WHICH ARE SUITABLE FOR USE AS STRUCTURAL FILL. THE EXCAVATION SHALL BE TO WITHIN A TOLERANCE OF 0.1 FEET OF THE PLAN SUBGRADE ELEVATIONS WHILE MAINTAINING PROPER DRAINAGE. THE TOLERANCE WITHIN PAVEMENT AREAS SHALL BE SUCH THAT THE EARTH MATERIALS SHALL "BALANCE" DURING THE FINE GRADING OPERATION.   |
| B.   | PLACEMENT OF THE CLAY AND OTHER SUITABLE MATERIALS SHALL BE WITHIN THOSE AREAS REQUIRING STRUCTURAL FILL. IN ORDER TO ACHIEVE THE PLAN SUBGRADE ELEVATIONS TO WITHIN A TOLERANCE OF 0.1 FEET, THE FILL MATERIAL SHALL BE PLACED IN LOOSE LIFTS THAT SHALL NOT EXCEED EIGHT (8) INCHES IN THICKNESS, AND THE WORK CONTENTS SHALL BE ADJUSTED IN ORDER TO ACHIEVE REQUIRED COMPACTION.   |
| C.   | STRUCTURAL FILL MATERIAL MAY BE PLACED WITHIN THOSE PORTIONS OF THE SITE NOT REQUIRING STRUCTURAL FILL TO WITHIN SIX (6) INCHES OF THE PLAN FINISHED GRADE ELEVATION. IN AREAS REQUIRING STRUCTURAL FILL, HOWEVER, THIS MATERIAL SHALL NOT BE PLACED OVER TPOISIL OR OTHER UNSUITABLE MATERIALS UNLESS SPECIFICALLY DIRECTED BY THE OWNER.   |
| D.   | COMPACTION OF THE CLAY AND OTHER SUITABLE MATERIALS, SHALL BE TO AT LEAST 93% OF THE MODIFIED PROCTOR DRY DENSITY WITHIN PROPOSED PAVEMENT AREAS, SIDEWALK, ETC. COMPACTION SHALL BE AT LEAST 95% OF THE MODIFIED PROCTOR WITHIN PROPOSED BUILDING PAD AREAS. THESE STANDARDS CAN BE MODIFIED AT THE DIRECTION OF THE SOILS ENGINEER.  |
| 4.   | UNSUITABLE MATERIAL  |
|  | UNSUITABLE MATERIAL SHALL BE CONSIDERED AS MATERIAL WHICH IS NOT SUITABLE FOR THE SUPPORT OF PAVEMENT AND BUILDING CONSTRUCTION, AND IS ENCOUNTERED BELOW NORMAL TPOISIL DEPTHS AND THE PROPOSED SUBGRADE ELEVATION. THE DECISION TO REMOVE SAID MATERIAL, AND TO WHAT EXTENT, SHALL BE MADE BY A SOILS ENGINEER WITH THE CONCURRENCE OF THE OWNER.  |
| 5.   | MISCELLANEOUS THE CONTRACTOR SHALL:  |
| A.   | SPREAD AND COMPACT UNIFORM, TO THE DEGREE SPECIFIED ALL EXCESS TRENCH SPOIL AFTER COMPLETION OF THE UNDERGROUND IMPROVEMENTS.  |
| B.   | SCARIFY, DISC, AERATE, AND COMPACT, TO THE DEGREE SPECIFIED, THE UPPER TWELVE (12) INCHES OF THE SUITABLE SUBGRADE MATERIAL, IN ALL AREAS THAT MAY BE SOFT DUE TO EXCESS MOISTURE CONTROL. THIS APPLIES TO CUT AREAS AS WELL AS FILL AREAS.  |
| C.   | PROVIDE WATER TO ADD TO DRY MATERIAL IN ORDER TO ADJUST THE MOISTURE CONTROL FOR THE PURPOSE OF ACHIEVING TO SPECIFIED COMPACTION.   |
| D.   | BACKFILL THE CURB AND GUTTER AFTER ITS CONSTRUCTION AND PRIOR TO THE PLACEMENT OF THE BASE COURSE MATERIAL.  |
| 6.   | TESTING AND FINAL ACCEPTANCE   |
| A.   | THE CONTRACTOR SHALL PROVIDE AS A MINIMUM, A FULLY LOADED SIX-WHEEL TANDEM AXLE TRUCK FOR PROOF ROLLING THE PAVEMENT SUBGRADE PRIOR TO THE PLACEMENT OF THE CURB AND GUTTER AND THE BASE MATERIAL. THIS SHALL BE FINISHED BY THE SOILS ENGINEER WITH THE CONCURRENCE OF THE OWNER.   |
| B.   | ANY UNSUITABLE AREA ENCOUNTERED AS A RESULT OF PROOF ROLLING SHALL BE REMOVED AND REPLACED WITH SUITABLE MATERIAL, OR OTHERWISE CORRECTED, APPROVED BY THE SOILS CONSULTANT.   |
| SOIL EROSION AND SEDIMENTATION CONTROL NOTES |  |
| 1.   | GENERAL  |
| A.   | THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE PROVISIONS OF THE MUNICIPAL CODE, THE ILLINOIS PROCEDURES AND SPECIFICATIONS FOR URBAN SOIL EROSION AND SEDIMENTATION CONTROL, AND IEPA STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENTATION CONTROL.  |
| B.   | SEE ALSO, STORMWATER POLLUTION PREVENTION PLAN AND NOTES ON PLAN S1.   |
| C.   | THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER INSTALLATION AND MAINTENANCE OF ALL TEMPORARY AND PERMANENT EROSION CONTROL MEASURES.   |
| D.   | SEDIMENT AND EROSION CONTROL DEVICES SHALL BE FUNCTIONAL BEFORE LAND IS OTHERWISE DISTURBED ON THE SITE.   |
| 2.   | IMPLEMENTATION   |
| A.   | BEFORE STARTING CLEARING AND SITE GRADING WORK, A CONSTRUCTION ENTRANCE AND SILT FENCES SHALL BE INSTALLED AS SHOWN ON THE PLANS. AS DIRECTED BY THE MUNICIPAL ENGINEER, THE CONTRACTOR SHALL INSTALL ADDITIONAL SILT FENCES WHERE NEEDED.   |
| B.   | THE CONSTRUCTION ENTRANCE TO THE SITE SHALL BE STABILIZED WITH GRAVEL PRIOR TO ANY WORK ON THE SITE. THE ENTRANCE SHALL BE MONITORED PERIODICALLY FOR ITS EFFECTIVENESS TO COLLECT DIRT WHICH COULD LEAVE THE SITE VIA CONSTRUCTION VEHICLES. ANY DEFICIENCIES SHALL BE CORRECTED IMMEDIATELY.   |
| C.   | GRAVELED ROADS, ACCESS DRIVES, PARKING AREAS OF SUFFICIENT WIDTH AND LENGTH, AND VEHICLE WASHDOWN FACILITIES, IF NECESSARY, SHALL BE PROVIDED TO PREVENT SOIL FROM BEING TRACKED ONTO PUBLIC OR PRIVATE ROADWAYS. ANY SOIL REACHING A PUBLIC OR PRIVATE ROADWAY SHALL BE REMOVED BEFORE THE END OF EACH WORKDAY.   |
| D.   | ANY PUBLIC AND/OR PRIVATE ROADS THAT ARE ADJACENT TO THE SITE AND USED FOR INGRESS AND EGRESS, SHALL BE MONITORED AND SWEEP WHEN DIRTY AT THE DIRECTION OF THE MUNICIPAL ENGINEER.   |
| E.   | STAKED STRAW BALES SHALL BE INSTALLED AND MAINTAINED AROUND INTAKE STRUCTURES (I.E., INLETS, CATCH BASINS) AS SHOWN ON THE PLAN. THE CONTRACTOR, AT HIS OPTION, MAY USE SILT FENCES INSTEAD OF STRAW BALES.  |
| F.   | IF A STOCKPILE IS TO REMAIN IN PLACE FOR MORE THAN 10 DAYS, SEDIMENT AND EROSION CONTROL SHALL BE PROVIDED AROUND SUCH STOCKPILE. IF MORE THAN 2 MONTHS, THEN IT IS REQUIRED THAT THE STOCKPILE BE COVERED SO AS TO PREVENT WIND AND WATER EROSION.  |
| G.   | THE SURFACE OF STRIPPED AREAS SHALL BE PERMANENTLY OR TEMPORARILY PROTECTED FROM SOIL EROSION WITHIN 14 DAYS AFTER FINAL GRADE IS REACHED. STRIPPED AREAS NOT AT FINAL GRADE THAT WILL REMAIN UNDISTURBED FOR MORE THAN 14 DAYS AFTER INITIAL DISTURBANCE SHALL BE PROTECTED FROM EROSION. PERMANENT COVER SHALL BE MAINTAINED CONTINUOUSLY UNTIL PERMANENT COVER IS ESTABLISHED.  |
| H.   | WATER PUMPED OR OTHERWISE DISCHARGED FROM THE SITE DURING CONSTRUCTION DEWATERING SHALL BE FILTERED.   |
| 3.   | INSPECTION AND MAINTENANCE   |
| A.   | THE TEMPORARY EROSION CONTROL MEASURES SHALL BE IN PLACE AND WORK EFFECTIVELY UNTIL ALL THE PERMANENT EROSION CONTROL ITEMS ARE FULLY FUNCTIONAL.  |
| B.   | THE CONTRACTOR SHALL INSPECT EROSION CONTROL MEASURES WEEKLY AND AFTER ANY STORM EVENT IN EXCESS OF 1/2". ANY DEFICIENCIES SHALL BE CORRECTED IMMEDIATELY.   |
| C.   | AT THE COMPLETION OF THE PROJECT, ALL STORM SEWER PIPES AND STRUCTURES SHALL BE CLEANED AND FREE OF ROOT AND DEBRIS. SEDIMENTATION SHALL BE REMOVED FROM THE STORM SEWER SYSTEM AND SHALL NOT BE WASHED OUT IN THE STORM SEWER SYSTEM.   |
| D.   | THE WILLY/SOUTH COOK SOIL AND WATER CONVERSATION DISTRICT IS RESPONSIBLE FOR CONDUCTING SITE VISITS AND VERIFYING THAT THE PRACTICES ARE WORKING PROPERLY AND DETERMINE IF ADDITIONAL PRACTICES ARE NEEDED FOR BETTER SOIL EROSION AND SEDIMENT CONTROL. IF ADDITIONAL PRACTICES ARE DEEMED NECESSARY BY THE SWCD, THE CONTRACTOR WILL IMPLEMENT THE PRACTICES IN A TIMELY MANNER.   |

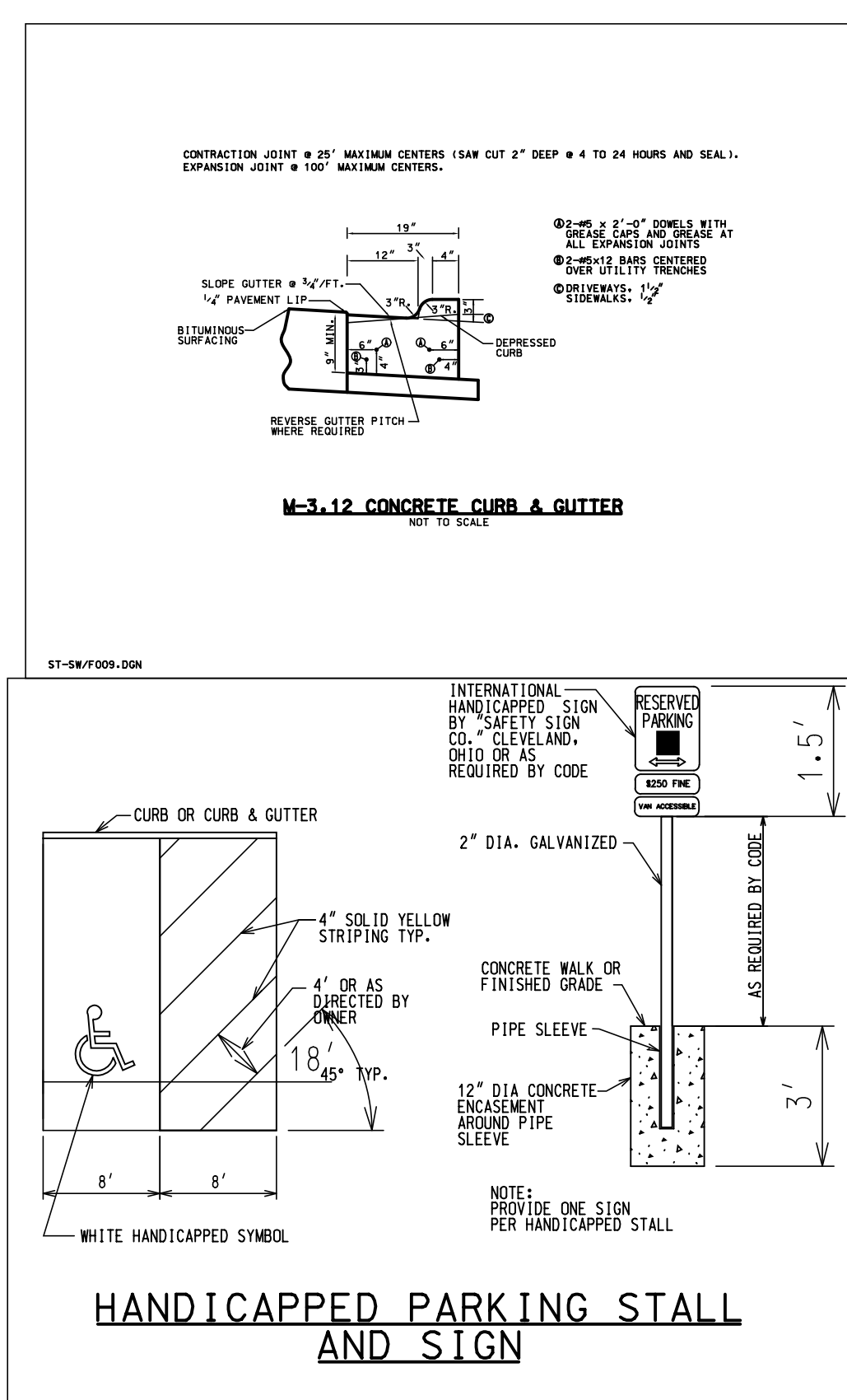
| PAVING NOTES  |  |
|---|--|
| 1. GENERAL  |  |
| A. PAVING WORK INCLUDES FINAL SUBGRADE SHAPING, PREPARATION AND COMPACTION; PLACEMENT OF SUB-BASE OR BASE COURSE MATERIALS; BITUMINOUS BINDER AND/OR SURFACE COURSES; FORMING, FINISHING AND CURING CONCRETE PAVEMENT, CURBS AND WALKS; AND FINAL CLEAN-UP AND ALL RELATED WORK.  |  |
| B. COMPACTION REQUIREMENTS: [REFERENCE ASTM D-1557 (MODIFIED PROCTOR)] SUB-GRADE = 93%; SUB-BASE = 93%; AGGREGATE BASE COURSE = 95%; BITUMINOUS COURSES = 95% OF MAXIMUM DENSITY PER (SSRBC) ARTICLE 406.16.  |  |
| C. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO PROVIDE PROPER BARRICADING, WARNING DEVICES AND THE SAFE MANAGEMENT OF TRAFFIC WITHIN THE AREA OF CONSTRUCTION. ALL SUCH DEVICES AND THEIR INSTALLATION SHALL CONFORM TO THE ILLINOIS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION AND IN ACCORDANCE WITH THE MUNICIPAL CODE.   |  |
| 2. SUB-GRADE PREPARATION  |  |
| A. EARTHWORK FOR PROPOSED PAVEMENT SUBGRADE SHALL BE FINISHED TO WITHIN 0.1 FOOT, PLUS OR MINUS, OF PLAN ELEVATION. THE CONTRACTOR SHALL SATISFY HIMSELF THAT THE SUBGRADE HAS BEEN PROPERLY PREPARED AND THAT THE FINISH TOP SUBGRADE ELEVATION HAS BEEN GRADED WITHIN TOLERANCES ALLOWED IN THESE SPECIFICATIONS. UNLESS THE CONTRACTOR ADVISES THE TOWN ENGINEER AND ENGINEER IN WRITING PRIOR TO FINE GRADING FOR BASE COURSE CONSTRUCTION, IT IS UNDERSTOOD THAT HE HAS APPROVED AND ACCEPTS THE RESPONSIBILITY FOR THE SUBGRADE.  |  |
| B. PRIOR TO THE PLACEMENT OF THE BASE COURSE, THE SUBGRADE MUST BE PROOF ROLLED AND INSPECTED FOR UNSUITABLE MATERIALS AND/OR EXCESSIVE MOVEMENT. IF UNSUITABLE SUBGRADE IS ENCOUNTERED, IT SHALL BE CORRECTED IN A MANNER APPROVED BY THE OWNER OR HIS REPRESENTATIVE. THIS MAY INCLUDE ONE OR MORE OF THE FOLLOWING METHODS:  |  |
| 1. SCARIFY, DISC, AND AERATE.   |  |
| 2. REMOVE AND REPLACE WITH STRUCTURAL CLAY FILL.  |  |
| 3. REMOVE AND REPLACE WITH GRANULAR MATERIAL.   |  |
| 4. USE OF GEOTEXTILE FABRIC.  |  |
| MAXIMUM DEFLECTION ALLOWED IN ISOLATED AREAS MAY BE 1/4" TO 1/2" IF NO DEFLECTION OCCURS OVER THE MAJORITY OF THE AREA.   |  |
| C. PRIOR TO THE PLACEMENT OF THE BASE COURSE, THE FINGER DRAINS SHOULD BE CONSTRUCTED PER UTILITY PLAN (SEE SHEET U1 AND D6). A MINIMUM OF 0.5% SLOPE SHALL BE MAINTAINED.  |  |
| D. PRIOR TO THE CONSTRUCTION OF THE CURB AND GUTTER AND THE PLACEMENT OF THE BASE MATERIAL, THE PAVEMENT AREA SHALL BE FINE GRADED TO WITHIN 0.04 FEET (1/2") OF FINAL SUBGRADE ELEVATION, TO A POINT 12" BEYOND THE BACK OF CURB, SO AS TO INSURE THE PROPER THICKNESS OF PAVEMENT COURSES, NO CLAIMS FOR EXCESS QUANTITY OF BASE MATERIALS DUE TO IMPROPER SUBGRADE PREPARATION WILL BE HONORED.  |  |
| E. PRIOR TO PLACEMENT OF THE BASE COURSE, THE SUBGRADE MUST BE APPROVED BY THE MUNICIPAL ENGINEER AND/OR OWNER.   |  |
| 3. CONCRETE WORK  |  |
| A. ALL EXTERIOR CONCRETE SHALL BE PORTLAND CEMENT CONCRETE CLASS 51 OR PV PER (SSRBC) SECTION 1020.04 (ASTM C94) WITH AIR ENTRAINMENT OF 6% (+/-1%). CONCRETE SHALL BE PLACED AND FINISHED WITHIN 90 DAYS OF THE DATE OF ORDER. A MINIMUM OF 4,000 PSI COMPRESSIVE STRENGTH OF TWENTY-EIGHT (28) DAYS. ALL CONCRETE SHALL BE BROOM FINISHED PERPENDICULAR TO THE DIRECTION OF TRAVEL. EXPOSED SURFACES SHALL BE TO 1". MAX. WATER CONTENT INCLUDING MOISTURE IN AGGREGATE TO BE 6 (S1X) GAL/ SACK OF CEMENT.  |  |
| B. CONCRETE CURB AND/OR COMBINATION CURB AND GUTTER SHALL BE OF THE TYPE SHOWN ON THE PLANS. THE CONTRACTOR IS CAUTIONED TO REFER TO THE CONSTRUCTION STANDARDS AND THE PAVEMENT CROSS-SECTION TO DETERMINE THE CUTTER FLAG THICKNESS AND THE AGGREGATE BASE COURSE THICKNESS BENEATH THE CURB AND GUTTER. PREMOLED FIBER EXPANSION JOINTS WITH TWO 3/4" X 18" EPOXY COATED STEEL DOWEL BARS SHALL BE INSTALLED AT SIXTY (60) FOOT INTERVALS AND AT ALL PC'S, PT'S AND CURB RETURNS. ALTERNATE ENDS OF THE CURBS SHALL BE EXPANSION JOINTS. EXPANSION JOINTS SAVED OR FORMED CONSTRUCTION JOINTS SHALL BE PROVIDED AT NO GREATER THAN FIFTEEN (15) FOOT INTERVALS BETWEEN EXPANSION JOINTS. NO OVERLAPPING OF CURB AND GUTTER WILL BE ACCEPTED. |  |
| C. CURBS SHALL BE DEPRESSED AT LOCATIONS WHERE PUBLIC WALKS/PEDESTRIAN PATHS INTERSECT CURB LINES, AND OTHER LOCATIONS AS DIRECTED, FOR THE PURPOSE OF PROVIDING ACCESS BY THE HANDICAPPED. (SEE CONSTRUCTION STANDARDS FOR DETAILS). BARRIER CURB SHALL ALSO BE DEPRESSED AT DRIVEWAY LOCATIONS.   |  |
| D. THE CURBS SHALL BE BACKFILLED AFTER THEIR CONSTRUCTION AND PRIOR TO THE PLACEMENT OF THE BASE COURSE.  |  |
| E. CONCRETE SIDEWALK SHALL BE IN ACCORDANCE WITH THE ABOVE AND THE PLANS. PROVIDE SCORED JOINTS AT 5 FOOT INTERVALS AND 3/4" PREMOLED FIBER EXPANSION JOINTS AT 50 FOOT INTERVALS. PROVIDE 1/2" PREMOLED FIBER EXPANSION JOINTS SHALL BE USED WHERE SIDEWALKS ARE ADJACENT TO LIGHT STANDARDS, TRAFFIC STANDARDS, TRAFFIC POLES, DRIVEWAY APRONS, OR CURBS.   |  |
| F. STANDARD REINFORCED CONCRETE PAVEMENT SHALL BE IN ACCORDANCE WITH THE ABOVE AND THE PLANS. SAWED OR FORMED CONSTRUCTION EXPANSION JOINTS SHALL BE AS SHOWN ON THE PLANS OR PER VILLAGE CODE.   |  |
| G. CONCRETE CURING AND PROTECTION SHALL BE IN ACCORDANCE WITH (SSRBC) - METHOD A, B, OR C. TWO (2) COATS OF BOILED LINSEED OIL IN CONFORMANCE WITH (SSRBC) SHALL BE APPLIED TO ALL EXPOSED CONCRETE SURFACES. SEE VILLAGE CODE FOR ANY VARIANCE TO THIS SPECIFICATION.  |  |
| H. THE COST OF AGGREGATE BASE OR SUB-BASE UNDER CONCRETE WORK SHALL BE INCLUDED IN THE COST OF THE RESPECTIVE CONCRETE ITEM.  |  |
| I. VILLAGE OF ORLAND PARK CODES SHALL SUPERCEDE SPECIFICATIONS SHOWN.   |  |
| 4. FLEXIBLE PAVEMENT  |  |
| A. THE PAVEMENT MATERIALS FOR BITUMINOUS STREETS, PARKING LOTS, DRIVEWAYS, SIDEWALKS AND BIKE PATHS SHALL BE AS DETAILED ON THE PLANS. UNLESS OTHERWISE SHOWN ON THE PLANS, HOT FLEXIBLE PAVEMENTS SHALL CONSIST OF AGGREGATE BASE COURSE, TYPE B, OR BAM (OR BAM IF SELECTED BY THE OWNER); BITUMINOUS CONCRETE BINDER COURSE, MIXTURE 1, AND BITUMINOUS CONCRETE SURFACE COURSE, CLASS 1, MIXTURE D, TYPE 2; OF THE THICKNESS AND MATERIALS SPECIFIED ON THE PLANS. THICKNESSES SPECIFIED SHALL BE CONSIDERED TO BE THE MINIMUM COMPACTED THICKNESS.  |  |
| B. ALL TRAFFIC SHALL BE KEPT OFF THE COMPLETED AGGREGATE BASE UNTIL THE BINDER COURSE IS LAID. THE AGGREGATE BASE SHALL BE UNIFORM PRIME COATED AT A RATE OF 0.4 TO 0.5 GALLONS PER SQUARE YARD PRIOR TO PLACING THE BINDER COURSE. PRIME COAT MATERIALS SHALL BE BITUMINOUS M.C. - 30.   |  |
| C. CONTRACTOR SHALL FORM THE BINDER COURSE UP TO THE TOP OF THE EDGE OF CURB, SEE THE TEMP. PAVEMENT/CURB PROTECTION DETAIL ON SHEET D6. PRIOR TO THE PLACEMENT OF SURFACE COURSE, THE TEMPORARY BINDER SHALL BE GROUND OFF, CLEANED AND TACK COATED.   |  |
| D. PRIOR TO PLACEMENT OF THE SURFACE COURSE, THE BINDER COURSE SHALL BE CLEANED, AND TACK COATED IF DUSTY OR DIRTY. ALL DAMAGED AREAS IN THE BINDER, BASE OR CURB SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER PRIOR TO LAYING THE SURFACE COURSE. THE CONTRACTOR SHALL PROVIDE WHATEVER EQUIPMENT AND MANPOWER NECESSARY, INCLUDING THE USE OF POWER BROOMS IF REQUIRED BY THE OWNER, TO PREPARE THE PAVEMENT FOR APPLICATION OF THE SURFACE COURSE. THE TACK COAT SHALL BE UNIFORMLY APPLIED TO THE BINDER COURSE AT A RATE OF 0.05 TO 0.10 GALLONS PER SQUARE YARD. TACK COAT SHALL BE AS SPECIFIED IN (SSRBC) SECTION 406.02.   |  |
| E. SEAMS IN BAM, BINDER AND SURFACE COURSE SHALL BE STAGGERED A MINIMUM OF 6".  |  |
| F. FOR NEW STREETS, THE CONTRACTOR SHALL PERMIT THE BITUMINOUS CONCRETE BINDER COURSE TO WEATHER ONE (1) WINTER SEASON PRIOR TO THE INSTALLATION OF THE BITUMINOUS CONCRETE SURFACE COURSE UNLESS OTHERWISE ALLOWED BY THE MUNICIPAL ENGINEER.  |  |
| 5. TESTING AND FINAL ACCEPTANCE   |  |
| A. THE CONTRACTOR SHALL FOLLOW THE QUALITY CONTROL TESTING PROGRAM FOR CONCRETE AND PAVEMENT MATERIALS ESTABLISHED BY THE OWNER AND/OR MUNICIPALITY.  |  |
| B. WHEN REQUESTED BY THE OWNER, TEST RESULTS AND DOCUMENTATION FOR THE CONCRETE, BASE COURSE, BITUMINOUS CONCRETE BINDER, AND/OR SURFACE COURSE, SHALL BE SUBMITTED FOR VERIFICATION.   |  |
| C. PRIOR TO PLACEMENT OF THE BITUMINOUS CONCRETE SURFACE COURSE, THE CONTRACTOR, WHEN REQUIRED BY THE OWNER OR MUNICIPALITY, SHALL OBTAIN SPECIMENS OF THE BINDER COURSE WITH A CORE DRILL WHERE DIRECTED, FOR THE PURPOSE OF THICKNESS VERIFICATION.   |  |
| D. WHEN REQUIRED BY THE OWNER OR MUNICIPALITY, THE CONTRACTOR SHALL OBTAIN SPECIMENS OF THE FULL DEPTH BITUMINOUS CONCRETE PAVEMENT STRUCTURE WITH A CORE DRILL WHERE DIRECTED, IN ORDER TO CONFIRM THE PLAN THICKNESS. DEFICIENCIES IN THICKNESS SHALL BE ADJUSTED FOR BY THE METHOD DESCRIBED IN (SSRBC), SECTION 407.10.   |  |
| E. FINAL ACCEPTANCE OF THE TOTAL PAVEMENT INSTALLATION SHALL BE SUBJECT TO THE TESTING AND CHECKING REQUIREMENTS CITED ABOVE.   |  |
| SIGNING AND PAVEMENT MARKING  |  |
| 1. ALL SIGNING AND PAVEMENT MARKING SHALL BE IN ACCORDANCE WITH THE ILLINOIS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (SSRBC), MUNICIPAL CODE AND THESE PLANS.   |  |
| 2. CONTRACTOR SHALL ESTABLISH LOCATION OF ALL SIGNS AND MARKINGS FOR APPROVAL BY THE VILLAGE PRIOR TO INSTALLATION.   |  |
| 3. SIGNS: SIGNS SHALL BE CONSTRUCTED OF 0.080 INCH THICK FLAT ALUMINUM PANELS WITH DGS REFLECTORIZED MATERIALS MANUFACTURED WITH (SSRBC) SECTION 720. LEGEND SHALL BE IN ACCORDANCE WITH MUTCD AND AS SHOWN ON THE PLANS.   |  |
| 4. POSTS: SIGN POSTS SHALL BE A HEAVY DUTY STEEL "U" SHAPED CHANNEL WEIGHING 3.0 POUNDS/FOOT SUCH AS A TYPE B METAL POST PER (SSRBC) SECTION 729 [OR 2" PERFORATED STEEL TUBE PER (SSRBC) SECTION 728].   |  |
| 5. SIGNS AND POSTS SHALL BE INSTALLED BY THE VILLAGE OF ORLAND PARK IN ACCORDANCE WITH THE ABOVE (SSRBC) SECTIONS AND IDOT STANDARD 129001 EXCEPT AS MODIFIED BY THE PLANS.   |  |
| 6. PAVEMENT MARKINGS: ALL PAVEMENT MARKINGS IN THE ROADWAY LIMITS, SUCH AS STOP LINES, CENTER LINES, CROSSWALKS AND DIRECTIONAL ARROWS SHALL BE THERMO TAPE, EXCEPT AS MODIFIED BY THE PLANS.   |  |
| 7. PAVEMENT MARKINGS ON BIKE PATHS, PARKING LOT STALLS, AND SIMILAR "LOW WEAR" APPLICATION, SHALL BE PAINT IN ACCORDANCE TO (SSRBC) SECTION 780, EXCEPT AS MODIFIED BY THE PLANS. REFLECTIVE BEADS ARE NOT REQUIRED.  |  |
| 8. COLOR, WIDTH, STYLE, AND SIZE OF ALL MARKINGS SHALL BE IN ACCORDANCE WITH (MUTCD) EXCEPT AS MODIFIED BY THE PLANS.   |  |
| 9. THERMO TAPE SHALL BE INSTALLED WHEN THE PAVEMENT TEMPERATURE IS 55° F AND RISING. PAINT MARKINGS MAY BE INSTALLED WHEN THE AIR TEMPERATURE IS 50° F AND RISING.  |  |

[illegible][illegible]

## SOIL EROSION AND SEDIMENTATION CONTROL NOTES

1. GENERAL
  - A. THIS WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE PROVISIONS OF THE MUNICIPAL CODE, THE ILLINOIS PRELIMINARY AND STANDARD CITY URBAN SOIL EROSION AND SEDIMENTATION CONTROL, AND IEPA STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENTATION CONTROL.
  - B. SEE ALSO, STORMWATER POLLUTION PREVENTION PLAN AND NOTES ON PLAN SE1.
  - C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER INSTALLATION AND MAINTENANCE OF ALL TEMPORARY AND PERMANENT EROSION CONTROL MEASURES.
  - D. SEDIMENT AND EROSION CONTROL DEVICES SHALL BE FUNCTIONAL BEFORE LAND IS OTHERWISE DISTURBED ON THE SITE.
2. IMPLEMENTATION
  - A. BEFORE STARTING CLEARING AND SITE GRADING WORK, A CONSTRUCTION ENTRANCE AND SILT FENCES SHALL BE INSTALLED AS SHOWN ON THE PLANS. IF DIRECTED BY THE MUNICIPAL ENGINEER, THE CONTRACTOR SHALL INSTALL ADDITIONAL SILT FENCES WHERE NEEDED.
  - B. THE CONSTRUCTION ENTRANCE TO THE SITE SHALL BE STABILIZED WITH GRAVEL PRIOR TO ANY WORK ON THE SITE. THE ENTRANCE SHALL BE MONITORED PERIODICALLY FOR ITS EFFECTIVENESS TO COLLECT DIRT WHICH COULD LEAVE THE SITE VIA CONSTRUCTION VEHICLES. ANY DEFICIENCIES SHALL BE CORRECTED IMMEDIATELY.
  - C. GRAVELED ROADS, ACCESS DRIVES, PARKING AREAS OF SUFFICIENT WIDTH AND LENGTH, AND VEHICLE WASHDOWN FACILITIES, IF NECESSARY, SHALL BE PROVIDED TO PREVENT SOIL FROM BEING TRACKED ONTO PUBLIC OR PRIVATE ROADSWAYS. ANY SOIL REACHING A PUBLIC OR PRIVATE ROADWAY SHALL BE REMOVED BEFORE THE END OF EACH WORKDAY.
  - D. ANY PUBLIC AND/OR PRIVATE ROADS THAT ARE ADJACENT TO THE SITE AND USED FOR INGRESS AND EGRESS, SHALL BE MONITORED AND SWEEP WHEN DIRTY AT THE DIRECTION OF THE MUNICIPAL ENGINEER.
  - E. STAKED STRAW BALES SHALL BE INSTALLED AND MAINTAINED AROUND INTAKE STRUCTURES (I.E., INLETS, CATCH BASINS) AS SHOWN ON THE PLAN. THE CONTRACTOR, AT HIS OPTION, MAY USE SILT FENCES INSTEAD OF STRAW BALES.
  - F. IF A STOCKPILE IS TO REMAIN IN PLACE FOR MORE THAN 10 DAYS, SEDIMENT AND EROSION CONTROL SHALL BE PROVIDED AROUND SUCH STOCKPILE. IF MORE THAN 2 MONTHS, THEN IT IS REQUIRED THAT THE STOCKPILE BE SEED SO AS TO MINIMIZE SOIL EROSION BY BOTH WIND AND WATER.
  - G. THE SURFACE OF STRIPPED AREAS SHALL BE PERMANENTLY OR TEMPORARILY PROTECTED FROM SOIL EROSION WITHIN 14 DAYS AFTER FINAL GRADE IS REACHED. STRIPPED AREAS NOT AT FINAL GRADE THAT WILL REMAIN UNDISTURBED FOR MORE THAN 14 DAYS AFTER INITIAL DISTURBANCE SHALL BE PROTECTED FROM EROSION. TEMPORARY COVER SHALL BE MAINTAINED CONTINUOUSLY UNTIL PERMANENT COVER IS ESTABLISHED.
  - H. WATER PUMPED OR OTHERWISE DISCHARGED FROM THE SITE DURING CONSTRUCTION DEWATERING SHALL BE FILTERED.
3. INSPECTION AND MAINTENANCE
  - A. THE TEMPORARY EROSION CONTROL MEASURES SHALL BE IN PLACE AND WORK EFFECTIVELY UNTIL ALL THE PERMANENT EROSION CONTROL ITEMS ARE FULLY FUNCTIONAL.
  - B. THE CONTRACTOR SHALL INSPECT EROSION CONTROL MEASURES WEEKLY AND AFTER ANY STORM EVENT IN EXCESS OF 1/2". ANY DEFICIENCIES SHALL BE CORRECTED IMMEDIATELY.
  - C. AT THE COMPLETION OF THE PROJECT, ALL STORM SEWER PIPES AND STRUCTURES SHALL BE CLEANED AND FREE OF DIRT AND DEBRIS. THE SEDIMENTATION SHALL BE REMOVED FROM THE STORM SEWER SYSTEM AND SHALL NOT BE WASHED OUT IN THE STORM SEWER SYSTEM.
4. THE WILL/SOUTH COOK SOIL AND WATER CONSERVATION DISTRICT IS RESPONSIBLE FOR CONDUCTING SITE VISITS AND VERIFICATION THAT ALL ARE BEING WORKED PROPERLY AND DETERMINE IF ADDITIONAL PRACTICES ARE NEEDED FOR BETTER SOIL EROSION AND SEDIMENT CONTROL. IF ADDITIONAL PRACTICES ARE DEEMED NECESSARY BY THE SWCD, THE CONTRACTOR WILL IMPLEMENT THE PRACTICES IN A TIMELY MANNER.

|   |   |
|---|---|
| <p>E. SEAMS IN BAM, BINDER AND SURFACE COURSE SHALL BE STAGGERED A MINIMUM OF 6".</p> <p>F. FOR NEW STREETS, THE CONTRACTOR SHALL PERMIT THE BITUMINOUS CONCRETE BINDER COURSE TO WEATHER ONE (1) WINTER SEASON PRIOR TO THE INSTALLATION OF THE BITUMINOUS CONCRETE SURFACE COURSE UNLESS OTHERWISE ALLOWED BY THE MUNICIPAL ENGINEER.</p> <p>G. TESTING AND FINAL ACCEPTANCE</p> <p>H. THE CONTRACTOR SHALL FOLLOW THE QUALITY CONTROL TESTING PROGRAM FOR CONCRETE AND PAVEMENT MATERIALS ESTABLISHED BY THE OWNER AND/OR MUNICIPALITY.</p> <p>I. WHEN REQUESTED BY THE OWNER, TEST RESULTS AND DOCUMENTATION FOR THE CONCRETE, BASE COURSE, BITUMINOUS CONCRETE BINDER, AND/OR SURFACE COURSE, SHALL BE SUBMITTED FOR VERIFICATION.</p> <p>J. PRIOR TO PLACEMENT OF THE BITUMINOUS CONCRETE SURFACE COURSE, THE CONTRACTOR, WHEN REQUIRED BY THE OWNER OR MUNICIPALITY, SHALL OBTAIN SPECIMENS OF THE BINDER COURSE WITH A CORE DRILL WHERE DIRECTED, FOR THE PURPOSE OF THICKNESS VERIFICATION.</p> <p>K. WHEN REQUIRED BY THE OWNER OR MUNICIPALITY, THE CONTRACTOR SHALL OBTAIN SPECIMENS OF THE FULL DEPTH BITUMINOUS CONCRETE PAVEMENT STRUCTURE WITH A CORE DRILL WHERE DIRECTED, IN ORDER TO CONFIRM THE PLAN THICKNESS. DEFICIENCIES IN THICKNESS SHALL BE ADJUSTED FOR BY THE METHOD DESCRIBED IN (SSRBC), ART. 407.10.</p> <p>L. FINAL ACCEPTANCE OF THE TOTAL PAVEMENT INSTALLATION SHALL BE SUBJECT TO THE TESTING AND CHECKING REQUIREMENTS CITED ABOVE.</p> | <p><b>SIGNING AND PAVEMENT MARKING</b></p> <p>1. ALL SIGNING AND PAVEMENT MARKING SHALL BE IN ACCORDANCE WITH THE ILLINOIS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION (SSRBC), MUNICIPAL CODE AND THESE PLANS.</p> <p>2. CONTRACTOR SHALL ESTABLISH LOCATION OF ALL SIGNS AND MARKINGS FOR APPROVAL BY THE VILLAGE PRIOR TO INSTALLATION.</p> <p>3. SIGNS: SIGNS SHALL BE CONSTRUCTED OF 0.090 INCH THICK FLAT ALUMINUM PANELS WITH D63 REFLECTORIZED FACE IN ACCORDANCE WITH (SSRBC) SECTION 720. LEGEND SHALL BE IN ACCORDANCE WITH MUTCD AND AS SHOWN ON THE PLANS.</p> <p>4. POSTS: SIGN POSTS SHALL BE A HEAVY DUTY STEEL "U" SHAPED CHANNEL WEIGHING 3.0 POUNDS/FOOT SUCH AS A TYPE B METAL POST PER (SSRBC) SECTION 729. (OR 2" PERFORATED STEEL TUBE PER (SSRBC) SECTION 728).</p> <p>5. SIGNS AND POSTS SHALL BE INSTALLED BY THE VILLAGE OF ORLAND PARK IN ACCORDANCE WITH THE ABOVE (SSRBC) SECTIONS AND IDOT STANDARD 729001 EXCEPT AS MODIFIED BY THE PLANS.</p> <p>6. PAVEMENT MARKINGS: ALL PAVEMENT MARKINGS IN THE ROADWAY LIMITS, SUCH AS STOP LINES, CENTERLINES, CROSSWALKS AND DIRECTIONAL ARROWS SHALL BE THERMO TAPE, EXCEPT AS MODIFIED BY THE PLANS.</p> <p>7. PAVEMENT MARKINGS ON BIKE PATHS, PARKING LOT STALLS, AND SIMILAR "LOW WEAR" APPLICATION, SHALL BE PAINT IN ACCORDANCE TO (SSRBC) SECTION 780, EXCEPT AS MODIFIED BY THE PLANS. REFLECTIVE BEADS ARE NOT REQUIRED.</p> <p>8. COLOR, WIDTH, STYLE, AND SIZE OF ALL MARKINGS SHALL BE IN ACCORDANCE WITH (MUTCD) EXCEPT AS MODIFIED BY THE PLANS.</p> <p>9. THERMO TAPE SHALL BE INSTALLED WHEN THE PAVEMENT TEMPERATURE IS 55° F AND RISING. PAINT MARKINGS MAY BE INSTALLED WHEN THE AIR TEMPERATURE IS 50° F AND RISING.</p> |
|---|---|



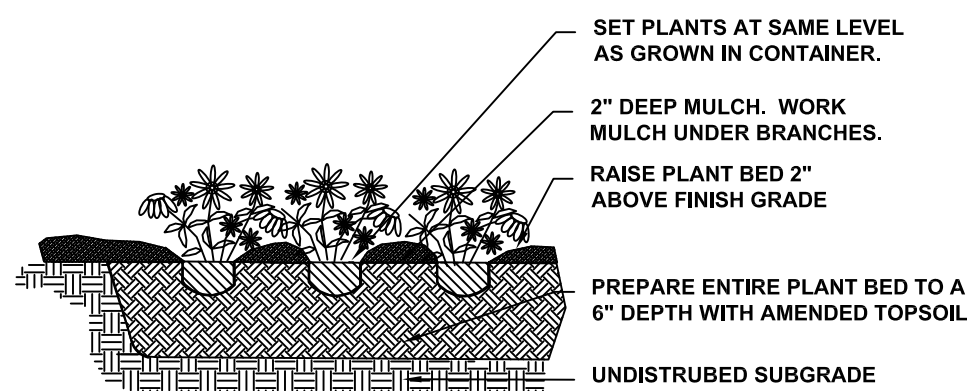


Diagram illustrating the components and instructions for a tree pit installation:

- 3" DEEP MULCH
- LIMIT PRUNING TO DEAD AND BROKEN BRANCHES AND SHOOTS.
- SET ROOTBALL AT SAME GRADE OR SLIGHTLY ABOVE FINISHED GRADE.
- PREPARE A 3" MIN. SAUCER AROUND PIT. DISCARD EXCESS EXCAVATED MATERIAL.
- BACKFILL PIT WITH PLANTING PIT BACKFILL SOIL.
- SET ROOTBALL ON DISTURBED SUBGRADE
- UNDISTURBED SUBGRADE
- CUT ANY SYNTHETIC CORDS AROUND ROOTBALL AND TRUNK



JUNE 30, 2016

DOUGLAS J. GOTHAM  
ILLINOIS REGISTRATION No. 157-000575  
EXPIRATION DATE: 08/31/15



**CHRISTOPHER B. BURKE** ENGINEERING, LTD.  
9575 W. Higgins Road, Suite 600  
Rosemont, Illinois 60018  
(847) 823-0500

CLIENT:

|           |   |                    |       |            |          |
|-----------|---|--------------------|-------|------------|----------|
| 1         | 10/1/15   | Village Comments   |       | DSGN.      | DJG      |
|           |   |                    |       | DWN.       | DJG      |
|           |   |                    |       | CHKD.      |          |
|           |   |                    |       | SCALE:     | 1" = 20' |
|           |   |                    |       | PLOT DATE: |          |
|           |   |                    |       | CAD USER:  |          |
| NO.       | DATE  | NATURE OF REVISION | CHKD. | MODEL:     |          |
| FILE NAME | C:\Users\daqotham\Documents\CBBEL 2015 Projects\Mackie -- A1of1 |                    |       |            |          |

TITLE:

# LANDSCAPE PLAN

PROJ NO 150460

DATE: 6/30/16

SHEET 1 OF 1

DRAWING NO.

Douglas Gotham. RLA157.000575

NO. **L 1**

ENGINEER'S ESTIMATE OF PROBABLE COSTS  
SPACECO ORLAND PARK  
ORLAND PARK  
Date: 7-11-16

## PLANT LIST

| PLANT LIST                          |  |                                |      |           |          |       | Unit     |      | Installed | Total       |
|-------------------------------------|--|--------------------------------|------|-----------|----------|-------|----------|------|-----------|-------------|
| SYM.                                | BOTANICAL NAME                               | COMMON NAME                    | Qty. | Spacing   | Size     | Cond. | Price    |      | Price     | Cost        |
| Deciduous Trees                     |  |                                |      |           |          |       |          |      |           |             |
| Ac mi                               | Acer miyabei 'Morton'                        | State Street Maple             | 4    |           | 2.5"     | B & B | \$200.00 | 2.50 | \$500.00  | \$2,000.00  |
| Am gr                               | Amelanchier grandiflora 'Autumn Brilliance'  | Autumn Brilliance Serviceberry | 7    | 11' o.c.  | 6' Clump | B & B | \$150.00 | 2.50 | \$375.00  | \$2,625.00  |
| Ma Ad                               | Malus Adams                                  | Adams Crabapple                | 2    |           | 2"       | B & B | \$120.00 | 2.50 | \$300.00  | \$600.00    |
| Sy re                               | Syringa reticulata 'Summer Charm'            | Summer Charm Lilac             | 3    |           | 2.5"     | B & B | \$180.00 | 2.50 | \$450.00  | \$1,350.00  |
| Ti co                               | Tilia cordata 'Greenspire'                   | Greenspire Linden              | 1    |           | 2.5"     | B & B | \$200.00 | 2.50 | \$500.00  | \$500.00    |
| Evergreen Trees                     |  |                                |      |           |          |       |          |      |           |             |
| Pi pu                               | Picea pungens                                | Colorado Spruce                | 5    | 8' o.c.   | 8'       | B & B | \$185.00 | 2.50 | \$462.50  | \$2,312.50  |
| Deciduous Shrubs                    |  |                                |      |           |          |       |          |      |           |             |
| Eu al                               | Euonymus alatus 'compactus'                  | Dwarf Burning Bush             | 1    | 4' o.c.   | 3'       | B & B | \$32.00  | 2.50 | \$80.00   | \$80.00     |
| Hy pa                               | Hydrangea paniculata 'Jane'                  | Little Lime Hydrangea          | 24   | 4' o.c.   | 3'       | B & B | \$32.00  | 2.50 | \$80.00   | \$1,920.00  |
| Sp bu                               | Spirea bumalda 'Goldflame'                   | Goldflame Spirea               | 7    | 30"       | 24"      | B & B | \$20.00  | 2.50 | \$50.00   | \$350.00    |
| Sy me                               | Syringa meyeri 'Palibin'                     | Dwarf Korean Lilac             | 42   | 4' o.c.   | 3'       | Cont. | \$50.00  | 2.50 | \$125.00  | \$5,250.00  |
| Vi de                               | Viburnum dentatum                            | Arrowwood Viburnum             | 9    | 4' o.c.   | 4'       | B & B | \$30.00  | 2.50 | \$75.00   | \$675.00    |
| Vi la                               | Viburnum lantana 'Mohican'                   | Mohican Viburnum               | 3    | 4' o.c.   | 4'       | B & B | \$30.00  | 2.50 | \$75.00   | \$225.00    |
| Evergreen Shrubs                    |  |                                |      |           |          |       |          |      |           |             |
| Bu mi                               | Buxus microphylla 'Chicagoland Green'        | Chicagoland Green Boxwood      | 16   | 2' o.c.   | 24"      | B & B | \$55.00  | 2.50 | \$137.50  | \$2,200.00  |
| Ju GS                               | Juniperus chinensis var. sargentii 'Viridis' | Green Sargent Juniper          | 29   | 4' o.c.   | #5       | Cont. | \$35.00  | 2.50 | \$87.50   | \$2,537.50  |
| Ju ch                               | Juniperus chinensis 'Kallay's Compact'       | Kallay's Compact Juniper       | 14   | 4' o.c.   | #5       | Cont. | \$35.00  | 2.50 | \$87.50   | \$1,225.00  |
| Pi mu                               | Pinus mugo 'Valley Cushion'                  | Dwarf Mugo Pine                | 5    | 3' o.c.   | #3       | Cont. | \$25.00  | 2.50 | \$62.50   | \$312.50    |
| Perennials / Grasses / Groundcovers |  |                                |      |           |          |       |          |      |           |             |
| Ca ac                               | Calamagrostis x acutiflora 'Karl Foerster'   | Feather Reed Grass             | 13   | 2' o.c.   | #1       | Cont. |          |      | \$20.00   | \$260.00    |
| Ba PB                               | Baptisia Starlite Prairieblues               | Starlite False Indigo          | 25   | 3' o.c.   | #1       | Cont. |          |      | \$20.00   | \$500.00    |
| He GB                               | Hemerocallis Going Bananas'                  | Going Bananas Daylily          | 54   | 2' o.c.   | #1       | Cont. |          |      | \$20.00   | \$1,080.00  |
| Ho BA                               | Hosta 'Blue Angel'                           | Blue Angel Hosta               | 12   | 2' o.c.   | #1       | Cont. |          |      | \$20.00   | \$240.00    |
| Li sp                               | Liriope spicata                              | Creeping Lilyturf              | 480  | 1' o.c.   | 12 flat  | Cont. |          |      | \$10.00   | \$4,800.00  |
| Mo br                               | Monarda bradburiana                          | Eastern Beebalm                | 21   | 2.5' o.c. | #1       | Cont. |          |      | \$20.00   | \$420.00    |
| Ru hi                               | Rudbeckia hirta                              | Blackeyed Susan                | 24   | 2.5' o.c. | #1       | Cont. |          |      | \$20.00   | \$480.00    |
| Sc sc                               | Schizachyrium scoparium                      | Little Bluestem                | 24   | 2.5' o.c. | #1       | Cont. |          |      | \$20.00   | \$480.00    |
| Sp he T                             | Sporobolus heterolepis 'Tara'                | Dwarf Prairie Dropseed         | 46   | 2' o.c.   | #1       | Cont. |          |      | \$20.00   | \$920.00    |
| Sp he                               | Sporobolus heterolepis 'Tara'                | Dwarf Prairie Dropseed         | 26   | 2' o.c.   | #1       | Cont. |          |      | \$20.00   | \$520.00    |
|                                     |  |                                |      |           |          |       |          |      |           | \$33,862.50 |

# WINDOW FILM PERFORMANCE DATA | Architectural: Global



## Solar Control Window Film

|  | % Total Solar Transmittance | % Total Solar Reflectance | % Total Solar Absorbance | % Visible Light Transmittance | % Visible Reflectance (exterior) | % Visible Reflectance (interior) | Winter U-value | Shading Coefficient | % Ultraviolet Ray Protection (wavelengths 280-380nm) | Emissivity | Solar Heat Gain Coefficient | % Total Solar Energy Rejected | Light-to-Solar Heat Gain Ratio (LSG) | % Summer Solar Heat Gain Reduction | % Winter Heat Loss Reduction | % Glare Reduction |
|--|-----------------------------|---------------------------|--------------------------|-------------------------------|----------------------------------|----------------------------------|----------------|---------------------|--|------------|-----------------------------|-------------------------------|--------------------------------------|------------------------------------|------------------------------|-------------------|
| Clear Glass  | 83                          | 8                         | 9                        | 90                            | 8                                | 8                                | 1.03           | 1.00                | 29   | 0.84       | 0.86                        | 14                            | 1.05                                 | 0                                  | 0                            | 0                 |
| <b>Reflective Series</b> Reflective films feature reflectance on both interiors and exteriors for superior reduction in summer cooling costs and heat retention in winter. Providing a high level of glare and heat control, they are scratch-resistant, shield 99% of UV rays, and are available in earthtones, skytones, silver, and gold to meet your aesthetic goals.                    |                             |                           |                          |                               |                                  |                                  |                |                     |  |            |                             |                               |                                      |                                    |                              |                   |
| RN-07G SR PS (One-Way Mirror)  | 6                           | 53                        | 41                       | 5                             | 60                               | 14                               | 0.91           | 0.20                | 99   | 0.59       | 0.16                        | 84                            | 0.31                                 | 80                                 | 12                           | 94                |
| R-15G SR CDF (Gray)  | 9                           | 33                        | 58                       | 7                             | 13                               | 61                               | 0.94           | 0.29                | 99   | 0.70       | 0.25                        | 75                            | 0.28                                 | 71                                 | 9                            | 92                |
| R-20 SR CDF (Silver)   | 12                          | 54                        | 34                       | 16                            | 62                               | 62                               | 0.94           | 0.25                | 99   | 0.71       | 0.21                        | 79                            | 0.76                                 | 75                                 | 9                            | 82                |
| R-35 SR CDF (Silver)   | 21                          | 43                        | 36                       | 28                            | 46                               | 49                               | 0.96           | 0.40                | 99   | 0.73       | 0.31                        | 69                            | 0.90                                 | 60                                 | 7                            | 69                |
| R-50 SR HPR (Silver)   | 36                          | 29                        | 35                       | 48                            | 28                               | 26                               | 0.97           | 0.54                | 99   | 0.75       | 0.46                        | 54                            | 1.04                                 | 46                                 | 6                            | 47                |
| <b>Dual-Reflective Series</b> Dual-Reflective films are highly reflective on the exterior; lower on the interior, which helps provide clear day and night views. Traditionally specified on commercial buildings, Dual-Reflective films are also popular for sunbelt residential applications. They are scratch-resistant, shield 99% of UV rays, and provide excellent heat rejection.      |                             |                           |                          |                               |                                  |                                  |                |                     |  |            |                             |                               |                                      |                                    |                              |                   |
| DR-15 SR CDF (Warm Gray)   | 16                          | 37                        | 47                       | 15                            | 37                               | 13                               | 0.92           | 0.3                 | 99   | 0.63       | 0.26                        | 74                            | 0.58                                 | 70                                 | 11                           | 83                |
| DR-25 SR CDF (Warm Gray)   | 25                          | 26                        | 49                       | 22                            | 27                               | 13                               | 0.92           | 0.41                | 99   | 0.61       | 0.35                        | 65                            | 0.63                                 | 59                                 | 11                           | 76                |
| DR-35 SR CDF (Warm Gray)   | 35                          | 19                        | 46                       | 36                            | 19                               | 13                               | 0.93           | 0.52                | 99   | 0.61       | 0.44                        | 56                            | 0.82                                 | 48                                 | 10                           | 60                |
| <b>EnerLogic® Series</b> EnerLogic® series films help keep the heat out in the summer, like traditional reflective window film. But in winter, EnerLogic® window film does what reflective film can't do: it helps lock the heat inside. EnerLogic window film offers outstanding optical clarity that's fully compatible with high-efficiency lighting.                                     |                             |                           |                          |                               |                                  |                                  |                |                     |  |            |                             |                               |                                      |                                    |                              |                   |
| LEP-35 SR CDF (Warm Neutral)   | 19                          | 49                        | 32                       | 33                            | 48                               | 30                               | 0.60           | 0.28                | 99   | 0.07       | 0.24                        | 76                            | 1.38                                 | 72                                 | 42                           | 63                |
| <b>Low-E Series</b> Low-E films provide superior energy conservation by reducing winter heat loss through windows. They are scratch-resistant, shield 99% of UV rays, and reduce glare. They are suitable for commercial and residential applications where summer and winter energy control are major concerns.   |                             |                           |                          |                               |                                  |                                  |                |                     |  |            |                             |                               |                                      |                                    |                              |                   |
| E-1220 SR CDF (Silver)   | 8                           | 58                        | 34                       | 12                            | 66                               | 70                               | 0.77           | 0.18                | 99   | 0.36       | 0.15                        | 85                            | 0.8                                  | 82                                 | 25                           | 87                |
| LE-35 SR CDF (Silver/Gold)   | 20                          | 46                        | 34                       | 31                            | 42                               | 39                               | 0.76           | 0.32                | 99   | 0.33       | 0.27                        | 73                            | 1.15                                 | 68                                 | 26                           | 66                |
| LE-50 SR CDF (Silver/Gold)   | 35                          | 32                        | 33                       | 49                            | 25                               | 23                               | 0.80           | 0.49                | 99   | 0.36       | 0.42                        | 58                            | 1.17                                 | 51                                 | 23                           | 46                |
| <b>Deluxe Series</b> Deluxe films are specified for commercial buildings where high levels of heat rejection and glare reduction are needed. Deluxe films are ideal for exterior aesthetics. They are scratch-resistant and reduce 99% of UV rays.   |                             |                           |                          |                               |                                  |                                  |                |                     |  |            |                             |                               |                                      |                                    |                              |                   |
| DL-05G SR CDF (Gray)   | 14                          | 25                        | 61                       | 6                             | 13                               | 13                               | 0.92           | 0.35                | 99   | 0.62       | 0.3                         | 70                            | 0.2                                  | 65                                 | 11                           | 93                |
| DL-15B SR CDF (Bronze)   | 27                          | 13                        | 60                       | 14                            | 8                                | 8                                | 0.98           | 0.45                | 99   | 0.77       | 0.39                        | 61                            | 0.36                                 | 55                                 | 5                            | 84                |
| DL-15G SR CDF (Gray)   | 26                          | 15                        | 59                       | 16                            | 9                                | 10                               | 0.99           | 0.45                | 99   | 0.78       | 0.42                        | 58                            | 0.38                                 | 55                                 | 4                            | 82                |
| DL-30GN SR CDF (Green)   | 29                          | 20                        | 51                       | 30                            | 17                               | 17                               | 0.98           | 0.53                | 99   | 0.76       | 0.46                        | 54                            | 0.65                                 | 47                                 | 5                            | 67                |
| <b>Neutral Series</b> Neutral films reduce glare, provide good heat rejection and are specified where a soft, neutral appearance is desired. These films are made with sputtered technology. Neutral films are scratch-resistant and shield 99% of UV rays.  |                             |                           |                          |                               |                                  |                                  |                |                     |  |            |                             |                               |                                      |                                    |                              |                   |
| N-1020 SR CDF (Neutral)  | 21                          | 26                        | 53                       | 24                            | 29                               | 28                               | 1.03           | 0.44                | 99   | 0.84       | 0.37                        | 63                            | 0.65                                 | 56                                 | 0                            | 73                |
| N-1040 SR CDF (Neutral)  | 36                          | 16                        | 48                       | 40                            | 18                               | 15                               | 1.00           | 0.59                | 99   | 0.81       | 0.50                        | 50                            | 0.80                                 | 41                                 | 3                            | 56                |
| N-1050 SR CDF (Neutral)  | 44                          | 13                        | 43                       | 49                            | 14                               | 12                               | 1.03           | 0.67                | 99   | 0.84       | 0.58                        | 42                            | 0.84                                 | 33                                 | 0                            | 46                |
| N-1065 SR CDF (Neutral)  | 65                          | 9                         | 26                       | 67                            | 10                               | 9                                | 1.03           | 0.82                | 99   | 0.84       | 0.71                        | 29                            | 0.94                                 | 18                                 | 0                            | 26                |
| N-1020B SR CDF (Bronze)  | 12                          | 49                        | 39                       | 20                            | 37                               | 35                               | 0.93           | 0.27                | 99   | 0.69       | 0.23                        | 77                            | 0.87                                 | 73                                 | 10                           | 78                |
| N-1035B SR CDF (Bronze)  | 25                          | 37                        | 38                       | 37                            | 25                               | 23                               | 0.94           | 0.41                | 99   | 0.71       | 0.36                        | 64                            | 1.03                                 | 59                                 | 9                            | 59                |
| <b>Exterior Series</b> Exterior Series products are applied to the exterior face of the glazing and provide excellent heat rejection performance.  |                             |                           |                          |                               |                                  |                                  |                |                     |  |            |                             |                               |                                      |                                    |                              |                   |
| NHE-20 ER HPR (Exterior Neutral)   | 22                          | 23                        | 55                       | 25                            | 24                               | 27                               | 1.04           | 0.45                | 99.9   | 0.84       | 0.38                        | 62                            | 0.66                                 | 55                                 | -1                           | 72                |
| NHE-35 ER HPR (Exterior Neutral)   | 33                          | 18                        | 49                       | 38                            | 15                               | 19                               | 1.04           | 0.56                | 99.9   | 0.83       | 0.48                        | 52                            | 0.79                                 | 44                                 | -1                           | 58                |
| RHE-20 ER HPR (Exterior Silver)  | 10                          | 65                        | 25                       | 14                            | 61                               | 65                               | 1.04           | 0.20                | 99.9   | 0.70       | 0.17                        | 83                            | 0.82                                 | 80                                 | -1                           | 84                |
| RHE-35 ER HPR (Exterior Silver)  | 18                          | 54                        | 28                       | 25                            | 48                               | 52                               | 1.04           | 0.30                | 99.9   | 0.68       | 0.26                        | 74                            | 0.96                                 | 70                                 | -1                           | 72                |
| RHE-50 ER HPR (Exterior Silver)  | 35                          | 34                        | 33                       | 45                            | 26                               | 30                               | 1.04           | 0.50                | 99.9   | 0.65       | 0.43                        | 57                            | 1.05                                 | 50                                 | 1                            | 59                |
| <b>Specialty Series</b> AU-85UV SR HPR is the ideal solution for protecting valuables from sun damage. It provides the highest protection against harmful ultraviolet rays without altering glass aesthetics. AIR-80BL SR HPR is used where a combination of extremely low visible reflectance, high light transmission, and substantial reduction in solar infrared transmission is needed. |                             |                           |                          |                               |                                  |                                  |                |                     |  |            |                             |                               |                                      |                                    |                              |                   |
| AIR-80BL SR HPR (Clear)  | 48                          | 7                         | 45                       | 79                            | 9                                | 9                                | 0.99           | 0.71                | 99   | 0.75       | 0.61                        | 39                            | 1.30                                 | 29                                 | 4                            | 12                |
| AU-85UV SR HPR (UVCL-Clear)  | 81                          | 9                         | 10                       | 89                            | 9                                | 9                                | 1.03           | 0.97                | 99.9   | 0.83       | 0.84                        | 16                            | 1.06                                 | 3                                  | 0                            | 1                 |

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The solar performance data reported for LLumar architectural window films was captured using the National Fenestration Rating Council's (NFRC) standard guidelines for window film solar performance measurement as measured on single pane, 1/8 inch (3mm), clear glass. All values averaged from routinely accumulated quality control data. © 2015 Eastman Chemical Company. LLumar®, the LLumar® and EnerLogic® logo are trademarks of Eastman Chemical Company or one of its wholly owned subsidiaries. As used herein, ® denotes registered trademark status in the U.S. only. Printed in U.S.A. (01/15)