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Recreating Paris in Les Miserables

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RECREATING PARIS IN *LES MISÉRABLES*

by

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ABSTRACT

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This document is a thesis submitted in partial fulfillment of the Master of Fine Arts degree in theatre. It is a detailed account of author Joel Schiebout's technical process in the construction of the set for Minnesota State University, Mankato's production of *Les Misérables* in the fall of 2013. The thesis chronicles the author's technical process from pre-production through post-production in five chapters: an early production analysis, a historical and critical perspective, a construction process journal, a post-production analysis and a process development analysis. Appendices and works cited are included.

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CHAPTER I

EARLY PRODUCTION ANALYSIS

This chapter contains the early production analysis for the technical direction of *Les Misérables*, a musical based on the novel of the same name by French writer Victor Hugo. It has music by Claude-Michel Schönberg, original French lyrics by Alain Boublil and Jean-Marc Natel and English lyrics by Herbert Kretzmer. This production is directed by Paul J. Hustoles, with the scenic design by John David Paul, the costume design by David McCarl, the lighting design by Steven Smith and the sound design by George Grubb. The production will run October 3-6 and 10-13, 2013, in the Ted Paul Theatre at Minnesota State University, Mankato.

The story of *Les Misérables* focuses on a French peasant named Jean Valjean. After spending 19 years in prison for stealing a loaf of bread he is released on parole by the policeman Javert. Valjean breaks parole and builds a new life for himself. He adopts a young orphan girl named Cosette. Once Cosette has become an adult, she befriends a man named Marius. Javert still pursues Valjean for breaking parole many years prior. Marius, his friend Enjolras and several other students decide to revolt against the government in the name of the poor. Valjean joins the young men at the barricade they had constructed in the streets, and after a battle escapes into the sewers with an injured Marius. Javert commits suicide upon learning Valjean is a changed man, Marius heals and marries Cosette and the play ends with the death of Valjean.

The scenic design by Paul is based entirely on an open floor plan. Hustoles wants the show to look like an empty stage for much of the musical. Despite the open nature of the design there are some complicated scenic elements that will make this show an interesting challenge to work on. The largest scenic element is the floor itself. The design features a 32-foot wide revolving stage and a 10-inch elevated floor over the whole playing space. This revolving stage, or revolve, overhangs the ledge of the orchestra pit by 2 feet. The recessed pit will hold the orchestra and have platforms over the top of them, a pit extension, that matches the level of the elevated floor. The floor treatment will be 6" square tiles in cobblestone patterns over the whole space that will be individually fastened on.

The second major scenic element is the 29-foot wide, 12-foot tall barricade. The barricade separates into two sections in order to hide backstage during the first act of the show. The third largest scenic element is the bridge from which Javert jumps to commit suicide. The entire unit is 14 ½ feet wide, 18 inches deep and almost 12 feet tall with working street lamps on it. It must be able to support an actor standing on it and must be able to fly off the stage after Javert jumps from it. The next largest scenic element is the gate that signifies Valjean's home at 55 Rue Plumet. It is 12 feet wide, 2 feet deep and 8 feet tall. It has working metal gates and is moved on and off stage several times during the show. The final large scenic element is the factory door unit for the factory Valjean owns. It only appears once in the show but has dimensional brick texturing and 7-foot tall arched doors that will need to be custom built. It is 8 feet wide, 2 feet deep and 8 feet tall. Almost the entire cast enters and exits through it so it must be very stable. There are

several more small scenic elements that will need to be constructed but are all very straightforward in their construction.

The open look of the design really makes the floor the main scenic element. With the revolve being the largest part of the floor, it is one of the most important aspects of the scenic design. There are many things to consider when planning the construction of a revolve. The names for the techniques in the following chapter concerning revolve construction come from a lecture given by Ed Weingart and Scott Bartley entitled "Turntables on a Budget," given on March 21, 2013, at the United States Institute for Theatre Technology National Conference in Milwaukee, Wisconsin. Revolves typically work by rotating on fixed wheels, or casters, that are placed in concentric rings radiating out from the revolve's center (see Appendix B, page 100). Casters can be either straight, in which they roll in a straight line, or swivel, in which they can rotate in any direct. The casters used for revolve construction are typically straight casters. Each caster is then installed perpendicular to its particular ray emanating from the revolve's center. This ensures a smooth circular roll from the straight caster with minimal friction. The revolve can be constructed with the caster's wheels bolted to the revolve or the floor, referred to as casters down or casters up, respectively. The only thing that changes based on that decision is how one constructs the revolve itself. It can be constructed using the frame method, the pie slice method or the bread-and-cheese slice method. All of these will be defined and analyzed later in the chapter. One must also decide what the revolve's center pivot point will be comprised of. Options include using a revolving plate, a pillow block or a pipe and flange. Finally, one must decide the method of powering the revolve's

movements. There are many options for this, including a friction drive motor, a chain motor, a belt motor, or a manual variation of these. Also included in these options is a powering method that turns the revolve from the center pivot rather than the outside edge. As is evidenced, there are many very different ways a revolve can be constructed. The technical director must make the construction decisions that ensure that the revolve can be constructed efficiently and be used during performances.

As previously mentioned, a revolve can be built with the casters facing up or facing down. Both styles have advantages and disadvantages and the construction method to choose depends on the many factors. The casters down method, where the caster's wheel touches the ground, works really well if one has a very level, clean stage floor. This choice lends itself very well to the frame construction method, which will be discussed later. The advantages to the casters down method are numerous. One needs fewer casters because these casters can be placed on load points. The load caused by the revolve itself is on the casters at all times and because of the type of construction of the revolve, the load tends to be lighter overall. One of the greatest advantages to this method is the fact that it is much quicker to build and install. However, there are some large disadvantages as well. The stage the revolve is being installed on must be very level and clean to not flex the frame of the revolve itself. One stray object on the floor can destroy a heavily loaded caster if the wheel rolls over it.

The casters up method, where the base of the caster sits on the floor and the wheel is in the air (see Appendix B, page 100), also has numerous advantages and disadvantages. This castering method lends itself well to the pie slice method or bread-

and-cheese slice method of revolve construction. One of the greatest advantages to this style is that it does not require a clean floor or perfectly level stage because the casters are fixed in position to the stage and can be shimmed to the appropriate height. This style also allows the possibility of cables being run under the revolve for electrics or other devices that exist on the revolve itself. With this construction method, the only limits to the size of revolve one can build are money, the size of one's space, and the strength of one's driving mechanism. While these are major benefits, the drawbacks are equally large. With this style of revolve the load is not evenly distributed among all of the casters. In order to support it adequately it requires twice as much plywood as the frame construction method and can use up to three times more casters. The installation time is also significantly longer because each plywood piece and caster needs to be installed individually in the space rather than simply being loaded in. The method used in this production was eventually chosen as the casters up method.

The frame method for the revolve construction is fairly straightforward. There are two methods of frame construction typically used for revolves. The first is a frame built of stick lumber or pieces of steel, depending on the size of the revolve, that start in the center and extend to the outer circumference. They are then connected laterally around the revolve and casters are placed on the bottom perpendicular to the rays they extend out on. The center of this frame is often a many-sided polygon, once again depending on the size of the revolve, that is constructed out of the same material as the rest of the frame. However, the final choice for how to construct the center of this frame depends on the decision of what type of center pivot point to use. The second method of

frame construction is the use of stock platforms for the center of the revolve with custom curved platforms for the edge. This method can also be easily incorporated with the casters down method. Either frame can be built quickly and easily. It can also be built without using the stage space and loaded into the space in pieces. However, it has all of the same disadvantages as the casters down method.

The pie slice method is a style that lends itself well to the casters up method. It consists of building wedge shapes of plywood in two discrete layers for the entire revolve. From a structural standpoint, this method works better with smaller revolves because the sheet goods necessary for the plywood slices are typically limited to 8-foot lengths. The second layer of these wedges should be offset angularly from the first layer in order to avoid seams matching up between layers. These layers should be glued and screwed together to form a rigid, two-layer floor. These offset wedges can be constructed in a different location than the stage space and then be loaded into the space individually to save on installation time. They can be fitted into each other around the center pivot and glued and screwed together as previously mentioned. The largest disadvantage to this style is the extra amount of material needed to make a two-layer floor.

The bread-and-cheese slice method is similar to the pie slice method and lends itself well to the casters up method. It is also comprised of two layers of plywood glued and screwed together, but this method uses squares rather than wedges. While this seems much more difficult it has the great advantage of getting an excellent yield from one's sheet good materials. The center piece of plywood for each level is placed over the center pivot point and offset to avoid any seams lining up between the two layers

(see Appendix B, page 100). Each piece of plywood has to be installed individually, starting with the bottom layer. Once one gets too far out from the center piece of the bottom layer to where the plywood sheets aren't being fully supported, the top layer can then be added in order to help support those bottom sheets (see Appendix B, page 101). The plywood layers should be glued and screwed together as in the pie slice method. While this method takes the most amount of time to install, it results in a greatly supported two-layer rigid stage surface with no overlapping seams. Once again, the largest disadvantage is the amount of material needed to construct the revolve, but this is mitigated by the excellent yield one will receive on the sheet goods. The method eventually chosen for this production was the bread-and-cheese slice method.

A note should be given about the choice of plywood used for these last two methods. The plywood chosen for the frame method can be any type that is able to support the spans between the frame members because all of the plywood seams should be supported. However, for the pie slice method and bread-and-cheese slice method there should be two different grades of plywood. The bottom layer should be BC plywood or better. BC is a grade given to plywood based on the smoothness and amount of blemishes on either face. The top layer can be CDX or Oriented Strand Board (OSB) plywood. CDX is a CD grade plywood that uses an exterior grade glue to attach the different plies. Rather than featuring individual wood plies, OSB uses shavings and strands of wood and glues them together in a thermal press. CDX and OSB plywood are lower quality than the higher grade BC plywood used for the base. The reason for this is

to help alleviate cost. The bottom layer needs to be higher quality so that the screws used to attach the two plywood layers hold it together better while the glue is drying.

Once the caster method and construction method have been chosen, one needs to decide what the center pivot will be. The most common type of center pivot is a revolving plate or pillow block. These two devices work similarly but are set up differently. Both rotate on bearings and can be easily lubricated. However, the revolving plate is set up as a square or rectangular plate that materials can be attached to. A pillow block on the other hand is a device that is set up to attach to pipes and vertically revovle them. If a pipe is installed and a pillow block is used, the pipe will then have to be separately attached to the frame. The disadvantage to this is the smaller purchase on the frame that a pipe would have when attached as compared to the larger purchase on the frame that a revolving plate would provide. The pipe and flange method is similar to the pillow block method but features a pipe rotating in a base without bearings. This has a similarly small purchase on the frame and needs to be lubricated more because it has no bearing, therefore more friction. This can often be an extremely complicated process unless planned for ahead of time. The center pivot eventually chosen for this production was a revolving plate.

The final choice that needs to be made when constructing a revolve is the driving mechanism. As previously mentioned, there are many options to fit a variety of different needs and any construction method. The first and oldest method is simply using manual power. This is most often done in one of two ways. One way is to have handholds or bars inserted into the outside edge of the revolve where stagehands or actors can

manually turn it on stage. This works better with lighter construction revolves, such as the casters down method. The other main manual power method is to use a pipe and flange center pivot point, except have the pipe continue through the stage floor to below the stage. There, stage hands can use a turn wheel to turn the revolve from the center pivot. This way also works better with smaller, lighter revolves but has the disadvantage of a very small purchase on the revolve frame due to the pipe base. There are manual variations of the other driving mechanisms mentioned as well.

A second way revolves are driven is by using a chain drive. This method involves a chain that fits into a groove on the outside perimeter of the revolve. The chain then runs over to a chain motor which feeds the chain through, moving the revolve. This method also works using a gear belt instead of a chain, with a gear track around the outside perimeter of the revolve. This option can be fairly expensive and has the major disadvantage of slippage. The chain can have a tendency to slip while in its groove, reducing the accuracy of the revolve movements. The gear belt method is a common substitute for this because of its reduced slippage. As mentioned previously, this method can be driven by using a motor or by using a manual hand crank.

The next common way revolves are driven is by using a cable drive. This is a much cheaper, similar option to the chain drive. Instead of using a chain around the perimeter of the revolve, this method uses a thin cable in the groove instead. This method is also unique because it wraps the cable around the revolve twice to prevent slippage. This causes the cable to bind on itself and hold position better. The turning mechanisms are the same as with the chain drive, either using a motor or manual crank.

The final method of driving a revolve is using a friction drive motor. This method uses a wheel pressed against the outside of the revolve that has enough tension to turn the revolve by friction. This is most often accomplished using an inflatable tire or a spring-mounted wheel. This method requires an even, flat surface around the outside edge of the revolve so that the wheel will drive it evenly. This problem can be alleviated by putting a strip of graded plywood around the outside edge of the revolve, regardless of its construction method. The friction drive can either be driven by a standard manually controlled electric motor or by an automation system. The driving method eventually chosen for this production was an automated friction drive motor.

A note should be given here about the use of an automation system when driving a revolve. An automation system uses computer programming to communicate with the electric motor that drives the revolve. The motor then sends information back to the computer system, telling it whether or not any slippage occurred and whether or not it hit its mark accurately. An automation system is by far the most accurate and efficient, and therefore most expensive, method of driving a revolve on this list. The most common type of automated revolve driver is a friction drive motor. However, there are a variety of unique automated driving methods that professional entertainment companies use, depending on their stage requirements.

Since the revolve will rest on the pit extension, this scenic element should be the next discussed. The most common method for installing a pit extension is by using platforms constructed with 2x4s that have legs placing them at stage level. By connecting all of these platforms together and to the walls of the recessed pit, it forms a

solid, connected stage floor for actors to walk on. This process works well for smaller orchestras. However, with larger orchestras the music director may want more space underneath the pit extension. In order to accomplish this, the pit extension must be built using a post and beam method. This method features legs on the upstage and downstage edge of the platforms, with beams spanning the gap between them and supporting the rest of the platforms. These beams can be made out of steel or 2x6 lumber, depending on the size of the pit extension. This method is structurally sound and can give the orchestra much more room under the pit extension, but makes installation much more challenging.

For this specific production the revolve will rest on the pit extension by a distance of two feet. This means that for caster placement, the upstage row of platforms must be at stage level. Installing all of the pit extension platforms to the same height would be the simplest route to choose. However, all of the platforms would then need elevated flooring on them to match the level of the revolve. This method would be easiest to plan but require the most amount of sheet goods. Since the scope of this design will use most if not all of the scenic budget, another option would be to build the pit extension on two levels. The upstage row of platforms could be built to the stage level to accommodate the revolve and the rest could be built to the height of the revolve using vertical spacers on the beams or longer legs on the platforms.

Once the pit extension and revolve are installed, the next part of the stage floor to consider is the elevated flooring that fills the entire playing space. The final height of the flooring needs to be 10 inches. There are two main construction methods that would work for this project. The first would be to use legged platforms to cover the entire

space. To fit these around the circular edge of the revolve, several custom platforms would have to be built to facilitate an easy installation. This method would be easiest to plan and install because all of the platforms could be built and legged outside of the stage space. However, this option uses the most amount of material. Roughly sixteen platforms would have to be custom built to accommodate the curve of the revolve, which would require a significant amount of material to be purchased and would create a set of platforms that would most likely not be useful for any other purpose.

The second option would be to create the elevated floor by using stud walls with decking on top. It would use the same amount of sheet goods as the platforms method but much less material for the frames. This option would also make it easy to accommodate the curve of the revolve. The stud walls could be built out of strips of OSB plywood and short 2x4s, giving a very good yield on these materials (see Appendix B, page 102). With 4'x8' sheets of decking the installation process for this method is fairly simple, with a consistent 2-foot spacing between each stud wall to line up with the plywood seams.

Once the elevated flooring is installed and the whole stage is covered with sound-dampening fiberboard, or soundboard, the next challenge is the fastening of the 6" square tiles in cobblestone patterns over the entire space. The major obstacle with this project is choosing a method of fastening that is quick to install, holds down the tiles for the entire show run, allows the reclamation of the soundboard and is easy to strike after the production is finished. The tiles will be made out of masonite or hardboard, which are often used because of their ability to easily be painted. Because these tiles will be sitting

directly on soundboard, glue will be ineffective as a fastening method. The soundboard will soak up too much of it for it to hold effectively. There are three main fastening choices for this project, and they are brad nails, staples or screws.

The main advantage to using brad nails is that they are cheap, quick, and don't leave much blemish on each individual tile. The disadvantage is that they tend not to hold down objects as sturdily as is needed here. Also, if tiles do come loose during a rehearsal or performance they leave a safety hazard because of their small profile. If installing the tiles using staples, narrow crown staples would have to be used in order to reduce the blemish on the top of each tile. The longest narrow crown staples that can be used effectively with most staple guns is 1-1/4", which may not hold down the tiles as sturdily as is needed. However, they are quick to install and easy to strike, depending on how many each tile requires. Using screws as fasteners is the option that is the most expensive and most time-consuming to install. However, they leave little to no chance of tiles coming up and would be the easiest to strike after the production ends.

With all of the options for the revolve, pit extension, elevated floor and tile fastening considered, the next scenic element to consider is the barricade. As previously mentioned, the barricade is 12 feet tall and 29 feet wide. It is composed of two large sections that must be sturdy enough to support actors and locked in place so they will not move around during a performance. To enter and exit the stage space efficiently it will require casters large enough to roll over the cobblestone tiles easily. Paul wants the look of the furniture on the barricade to develop organically, so the main concern of the technical director is building a frame for it and making all of the units lock into place.

When considering the frame of the barricade, the two main construction options are steel construction and wood construction. Both have advantages and disadvantages. Steel construction provides a greater amount of support and stability with fewer materials than wood construction could. Welding a frame together would make the barricade barely flex and be able to support a large number of actors safely. There are downsides as well though. Welding such a large frame would require a large amount of skilled, specifically trained labor, which this shop does not possess. Furthermore, teaching people to weld can be a time-consuming process. Steel is also much more expensive than wood. The frame would mostly likely have to be built out of 1x2 box tube steel and the size of the barricade would require a significant amount of it. Finally, attaching the often fragile furniture to a steel frame in a timely manner would be very difficult based on the type of fastener used.

Wood construction would require a lot of material to make a barricade frame that is sturdy enough for the requirements of the design. Ample leg bracing and cross bracing will be required as well as extra support to each platform frame to support the actors on top of it. The shape of the barricade frame also poses some concerns for joint stability with wood construction. The inexpensiveness of wood material is a major advantage however, and fragile furniture can easily be attached to a wooden frame. If the design of the barricade needs to be changed for a specific accommodation during the rehearsal process, it is much easier if one uses wood construction rather than steel construction.

The next choice to make is how to make the barricade stay in place on stage during the run of the show. Since the casters on the barricade need to roll easily enough

to allow it to enter and exit quickly, the activity on top of the units will roll it around on stage unless it is held in place. The two main options to alleviate this problem are stage brakes and drop pins. Stage brakes are incredibly effective on smaller units, but the size and weight of this scenic element may make it difficult for them to be effective. They also tend to stand out to the audience unless hidden really well. Drop pins are simple, L-shaped pins that drop through a bracket on the frame of a scenic element and into a hole in the floor. While these would hold the barricade in place very well, the size and spacing between the drop pins that this unit requires may make it hard for actors to effectively install the drop pins each performance.

The next large scenic element to consider is the bridge unit. This unit is 11'-7 ½" tall, 18 inches deep and 14 ½ feet wide. It is rigged to fly in and out and must support an actor standing and walking on it and jumping off of it. The first item to address is the rigging itself. The width of the bridge necessitates there being four different rigging lines attached to it, or pick points. This is so that the structure of the bridge is amply supported as it hangs overhead. The standard way to approach these pick points is to put two on the outside edges of the unit and then two equally spaced between them. However, because an actor needs to interact with this scenic element for the length of a song, these middle two pick points may be moved to accommodate the actor's movements. The best way to attach these pick points is by anchoring them to the bottom part of the structure.

In order to make it look more realistic, Paul designed the bridge to be arched at the bottom. There are two feasible options to accomplish this design choice. The first is to build the bridge unit so that it sets down on two boxes or elevated platforms and

includes a structural walkway across the whole unit. While this option follows the design most carefully, there are some inherent disadvantages to it. The first is stability from upstage to downstage. Since this unit is a flown unit, it is being supported by a batten, or steel pipe, that is connected to the counterweight rigging system. This bar is suspended by cables, so there is nothing to prevent it from swinging upstage or downstage if lateral force is applied to the bridge unit. This is fine for when the actor is walking and standing on the bridge but when he jumps off of it, he is applying that lateral force. While there are ways to temporarily attach the bridge to these boxes or elevated platforms, it would require stagehands or other actors to unhook them before the bridge flies out. This would ruin the intended illusion.

The second method is to build the bridge as a solitary unit. In order to make it more structurally sound and easier to rig, the structure should be built as a solid rectangular prism rather than a frame with an opening underneath. While this somewhat ruins the intended look for the design, building the frame as a solid shape will provide a structurally sound and more stable option than building an open-bottomed frame. Four pick points can be attached to cross bracing that sits underneath the rest of the frame. While this option has the disadvantage of being much heavier, its advantage of stability makes it an attractive option.

The next major scenic element to consider is the gate unit. The gate is 12 feet wide, 2 feet deep and 8 feet tall. Both sides of this unit will be seen, so the front and back will require finish facing. The design for this unit is fairly straightforward with the exception of the metal gates. Paul wants them to be real metal to create a clanging sound

when the gate closes. Due to this, the flats on either side of the gate must be able to support its weight. These can be built out of steel or 2x4 frames to accomplish this. Steel must be welded and ground smooth to accommodate facing on it. The option using 2x4s will require more material, but will be easier to install and makes it simpler to attach facing. The gate itself must also be considered. Being made out of metal, one can use either round stock steel or square tube steel. Using round stock steel will make the process slightly more complicated to weld because each piece will have square cut ends. Square tube steel is easier to weld but has the disadvantage of not looking as authentic. The size and type of steel also must be considered. Using large diameter solid steel will greatly increase the weight of the gates, which will require additional support from their attached flats. Smaller tube steel provides a much lighter option that is adequately rigid for this particular use. If tube steel is used the gauge of steel must be taken into account because two sections of steel will have to be bent for the tops of the gate. Steel is easier to bend with a thinner gauge, but this also increases the risk of creasing the steel tube.

The final large scenic element to consider is the factory door unit. This unit is 8 feet wide, 2 feet deep and 8 feet tall. There are two major construction decisions to be made about this unit. The first is the 7-foot tall arched doors with open windows that will need to be custom built for this unit. The second is the dimensional brick work that the design designates. The factory doors could be built in two main ways. The first way is using solid door construction. This method involves either using several sheets of plywood or pieces of stick lumber side by side to create a solid block of wood with facing on either side. The windows and curve could then be cut out and the door could be

installed. While this construction method makes a door that is very solid, the major disadvantage to this choice is the door's weight. The extra weight would also require extra bracing on the flats that the door is attached to. The second construction method is hollow door construction. This method uses a thin wooden frame around the outside of the door that is sandwiched in between two sheets of facing. While this option is slightly more time consuming, with ample fastening, the door is nearly as rigid as with solid door construction. Doors that use hollow construction are also a fraction of the weight.

When considering the dimensional brick work on the unit, there are two main options. They are either individually cut out brick pieces or brick pattern hardboard. Cutting out individual brick pieces out of scrap hardboard or luaun and then fastening them to the unit individually can be a time-consuming process. The major advantages to this method are the very realistic-looking final product and the limited weight. The other option for getting dimensional brick on the unit is using brick pattern hardboard. This method can be fairly expensive and weighs a significant amount, which may affect the stability of the unit because of its height. However, the hardboard is very easy to install and leaves one with a fairly realistic-looking final product.

For this production, there are a large number of technical considerations that will make this a difficult project to work on. The construction process will have to be thoroughly planned and efficiently executed in order to appear on time and under budget, which is an exciting prospect. Each scenic element presents its own host of obstacles that will each provide a challenging yet educational experience for this technical director.

CHAPTER II

HISTORICAL AND CRITICAL PERSPECTIVE

Les Misérables is a musical originally adapted and directed in London by Trevor Nunn and John Caird. The original French premiere opened at the Palais de Sports in Paris on September 18, 1980, and ran for a full season (Behr 160). Boublil and British producer Cameron Mackintosh decided to mount an English language version of the musical, which opened at the Barbican Theatre of London on October 8, 1985, and moved to the Palace Theatre of London's West End on December 4, 1985 (Miller 165, Behr 160). Originally getting scathing reviews by critics, word of the musical quickly spread and ticket sales began to increase significantly. The original Broadway production opened on March 12, 1987, at the Broadway Theatre in New York City. It ran for 6,680 performances, closing on May 18, 2003, and is currently the 4th longest running musical in Broadway history (IBDB). The musical has become one of the most iconic musicals in theatre history and is a magnificent example of epic romanticism on Broadway.

Les Misérables is based on the Victor Hugo novel of the same name. Hugo's Les Misérables follows the story of Jean Valjean, a French peasant who has been imprisoned. Early passages of the book follow him as he attempts to recreate himself in a new life, becoming a successful businessman and mayor before adopting the young orphan Cossette. He is pursued by the police inspector Javert for breaking parole. Cossette falls

in love with a student revolutionary Marius, setting up a major plot conflict for later in the book. Marius, his friend Enjolras and several other student revolutionaries participate in Hugo's recreation of the June Rebellion of 1832.

Historically, the June Rebellion was a reaction to the establishment of the monarchy of Louis-Phillippe, who overthrew the House of Bourbon in the French Revolution of 1830 (Pinkney 366). His President of the Council and staunch supporter, Casimir Perier, who had first joined the revolution as an opposition deputy to the king, passed away in 1832 during the Parisian cholera outbreak (Pinkney 20, 367). The Parisian cholera outbreak of 1832 began in March that year and combined fear of disease, moral outrage at the new regime and apprehension of political upheaval into a singular panic for many poorer Parisian residents. As the outbreak forced many wealthier Parisians to flee the city, the urban economy began to collapse. Conditions worsened for the more destitute Parisians and they found solace in the political critiques of General Maximilien Lamarque, a commander promoted after the Revolution of 1830, who condemned Louis-Phillipe's new regime. The passing of Lamarque, a working class hero, sparked a large-scale working class uprising known as the June Rebellion (Burton 125). As Hugo immortalized in Les Misérables, the June Rebellion failed to overthrow the new government and the student revolutionaries were killed.

Hugo's depiction of the terror and the tragedy of the June Rebellion shows an exaggerated historical event that fits into the novel's theme of Romanticism. Throughout Hugo's extensive literary career, Romantic symbolism penetrates deeply into all of his

work. By examining the Romantic themes of the book Les Misérables, one can draw a connection to the Romanticism throughout the musical.

Hugo was born to Brutus and Sophie Hugo on February 26, 1802, in Besançon, France (Robb 9-10). Later on in life, he would admit that the only thing he found eccentric about his origin was his "innate internationalism"; his mother was French, his father was from Lorraine, which alternated ownership between France and Germany, and he was born in a town that used to belong to Spain (Robb 11). When he was almost two years of age, his family moved to Paris, his city of identity, and some of his earliest memories stayed with him for the rest of his life and manifested themselves in his works. After Napoleon became Emperor of France in May 1804, Hugo recalled the unrest in the streets in the tumultuous following years (Robb 19). With his father in the military and France in political and military conflict for much of his early life, he was being reared from a young age to be a French soldier for the constantly warring country (Robb 24). Giving up the pursuit of a military career in favor of life as an author, one can easily see throughout his works the impression this type of childhood had on him.

Along with a familial military background, two other memories Hugo had of his young life played large roles in his literary work later on. Hugo admitted to his wife in her biography of him the memory of his first adult erection, or as he put it, when "his virility declared itself" (Robb 32). He eloquently recalled, "It was there that I saw the first inexpressible light beginning to shine in the darkest corner of my soul" (Robb 33). According to Graham Robb, author of the biography Victor Hugo, the use of such embellished language to describe an event society would consider distasteful is "a

reminder that the babbling brook of Romantic fiction carries darker currents" (Robb 33). Hugo's flowery language is not only a powerful way to attempt to express the emotional quality of what he was experiencing, it also helps draw attention away from darker subject material. This technique returns symbolically in some of the pivotal moments of action in the Les Misérables story.

A third young memory of Hugo's that impacted his literary works was his first trip to Spain as 9-year old living in Bayonne, France. Residing in the city because of his father's military work, his mother decided to take him and his brothers on one of their father's military excursions through a French-held portion of Spain to the city of Madrid (Robb 33-36). There, Hugo had his first experience with destitution and the destruction of war. Passing militarily-razed town after village fortress and crippled beggar after flea-ridden farmer, Hugo's eyes were opened. As a "child of France, raised among the mahogany of the Empire," he was astonished at the reversal of fortune their neighbors to the west had suffered (Robb 33). The trip, which consisted of riding in an antique coach with cast iron plating to resist bullets and getting shot at by roadside bandits, was his mother's idea to give him an education about the harshness of reality (Robb 34). His experience with this segment of society and the stark difference between his reality and theirs would later reveal itself in a conspicuous way through the story of Les Misérables.

These three childhood experiences are important in Hugo's life because they manifest themselves as important facets of Les Misérables. The first and most obvious is the destitution of many of the characters themselves. Jean Valjean starts out a peasant and the chorus itself sings the words "Look down and see the beggars in the street."

Hugo in a way is self-immortalized in the character of Marius, with whom his life bears a resemblance. Both Marius and Hugo had military fathers and were obsessed with the reign of Napoleon (Brombert 95). Both discovered later on in life that their fathers were not the heroic idealizations they had created, but rather almost villainous men who had effected great tragedy at the order of the government (Brombert 103). And both men, despite being from wealthier upbringings, sympathize with the poor and destitute. Marius does this by joining the student revolutionaries in the June Rebellion and Hugo by constructing the character Javert as the villain and oppressor of Les Misérables.

Hugo's childhood as a future French soldier manifests itself in the police force that is constantly oppressing the poor. Hugo believed that persistent criminals are a product of the criminal justice system. He thought that the criminal justice system was inherently monstrous because it was a human construct. He believed "that the burden of guilt lies with society and that the rational reform of institutions should take precedent over the punishment of individuals" (Robb 382). Considering the major action of the second act of *Les Misérables*, the clash between the city police and the student revolutionaries, it is a clash between the representatives of the oppressive criminal justice system and the representatives of the people it oppressed. In June of 1832, while writing a play in the Tuileries Gardens, Hugo heard gunshots ringing out somewhere in the city. As he quickly walked home, he turned down an alleyway and unwittingly entered the middle of a skirmish between rioters and the city police; he had walked into a small facet of the June Rebellion. Pinning himself in a doorway, he waited until the outgunned rioters had perished and the police had moved on. Hearing news the next day that around

800 rioters had been killed throughout the night, he realized that the "government which had been entrusted with the ideals of the 1830 Revolution had shown its true face" (Robb 173).

The last childhood experience mentioned that manifested itself later in his works is his ornate and euphemistic description of his sexual awakening. As previously mentioned, although often beautiful and embellished, Romantic literature can carry the meanings of darker things. This manifests itself in Hugo's works in what Victor Brombert, author of the book Victor Hugo and the Visionary Novel, calls "the Language from Below" (Brombert 115). Hugo's attraction to the literal and figurative underbelly of society gives framework for the important scene following the deaths of the students on the barricade, Valjean's rescue of Marius through the sewers of Paris. It is through "the Below" that Valjean makes his ultimate escape, or his "transcendence" (Brombert 117-118). Hugo had a fascination with the old medieval Parisian sewer system, the one in place in 1832. The old system had been replaced by a super-efficient waste-management system upon his writing of the novel, and he grieved for the loss of old Paris. He considered the old sewer system the "'conscience of the city' where everything reverts to its true form" (Robb 383). Hugo even wrote that "The sewer never lies" (Robb 383). This infatuation with the basest aspects of Parisian life and dwelling upon the dark secrets of his city's past helps signify a Romantic theme throughout the novel.

The Romanticism apparent in the novel Les Misérables reveals itself in the musical *Les Misérables* as well. One of the most important aspects of the Romantic genre is exaggeration in the style and the details. The musical itself is written in this way.

It is what author Jessica Sternfield calls a "megamusical," a type of spectacle show that became popular in the 1970s and 1980s (Sternfield 1). Megamusicals have plots that are large in scope, musical numbers that are grandiose and sets that are often impressive and complicated (Sternfield 2). Because of the epic scope of the *Les Misérables* story, the lyrics of the show are unlike traditional musical lyrics. They are "bigger, more formal, more extreme, more tragic, more melodramatic" (Miller 166). The show can hold the weight of the lyrics because "the entire show is built on this bigger than life style" (Miller 166). In the span of a single musical, thanks to Hugo's sprawling novel, the characters interact with and are affected by love, sickness, war, marriage, poverty, suicide and social reform. This epic style is brilliantly derived from the Romanticism of Hugo's novel, but ingeniously compacted into the musical's three-hour run time. This clever distillation of a novel's worth of emotion is part of what has made *Les Misérables* into the successful musical that it is.

The musical, similar to the book, was initially more of a popular success than a critical one. When Les Misérables was first published, most of the reviews were hostile. However, it had massive popularity with the public, leading one critic to write that Les Misérables being everywhere was "proof that the public's taste is really sick" (Behr 39). The musical, over one hundred years later, opened to similar reviews. Mackintosh, Nunn and Caird described the reviews as falling into two contradictory categories. The first criticized them for reducing the literary masterpiece into a three-hour spectacle, while the other group criticized them for lavishing their story-telling skills on a "turgid and wobbly tale" (Behr 141). The reviews were so critical that Mackintosh debated shutting the

production down. However, after a phone call to the Barbican Theatre he discovered that they had already sold a record 5,000 tickets for the show. With the public opinion so different from that of the critics, the production was playing to capacity audiences by its third night and was sold out the rest of its run at the Barbican (Behr 141). The show moved to the Palace Theatre of London's West End on December 4, 1985, and began selling out there as well (Behr 143). This solidified the beginning of the near mythic career of *Les Misérables*.

Les Misérables is the fourth-longest running show in Broadway history. Its 16-year run can be attributed to its epic style, impressive music and grand story. From its origin as a literary classic through its clever restructuring into an action-packed, emotionally charged megamusical, its story remains accessible to people in all aspects of life. One of the most iconic musicals in history, the lauded success of *Les Misérables* is a testament to both the talent of its creators and the artists continually performing it.

CHAPTER III

JOURNALS

10 April 2013

Today was the first concept meeting for *Les Misérables*. I'm looking forward to the challenge of working on such an iconic musical, as well as working with Paul J. Hustoles as the director for my first time. Hustoles outlined his idea for what the play should be about and look like, which he considered to be the "essence of Romanticism." He believed that the interactions in the play represent an intersection of the grotesque and the sublime. He really seemed to enjoy the idea of including a revolve in the scenic design, which would help create seemingly instantaneous scene shifts. This would also require the actors being able to interact with the scenery early on. He used the phrase "less is more" for the scenic design. From experience, I have learned that sets that appear very simple at first can sometimes be the most complicated to build, so I am looking forward to the challenge of this project.

17 April 2013

John Paul, the scenic designer, brought some very interesting ideas to the second production meeting this morning. Based on the concept meeting, he has debated using a revolve in the design. It is my job to do a lot of research on modular or stock revolves before next week, as well as do some research on automation-ready solutions. Paul's

research revealed a lack of a lot of distinctive architecture in France at the time, which Hustoles liked because he believed that the architecture in the show should be more suggested than realistic. Right now Hustoles, Paul, and I are looking at the possibility of installing a revolve that is flush with a raised stage deck. It is also my job this upcoming week to research the creation of a home-built revolve, for there is the possibility that we may be investing in some high quality casters and automation pieces. The only other scenic element that was discussed was the inclusion of many tables and chairs, some of which I may need to build.

24 April 2013

At the beginning of the meeting, Paul came in with a proposed 28-foot diameter revolve for the scenic design, but Hustoles wanted it to fill the proscenium more. This led to an increase in size, and we are now locked into a 32-foot diameter revolve. After doing some quick calculations I determined the rough number of plywood sheets that would be needed to build the revolve in a 2-layer method. I voiced my concerns over the cost of $1,200 dollars I came up with, but others didn't seem concerned because my budget was $3,000, which was larger than normal for the opening musical. Nick Wayne, the musical director for the show, really wanted to use the pit for the orchestra, so now there will have to be a pit extension so we don't lose all of that acting space. Because of the revolve's placement, I am slightly concerned about the fact that it overhangs what will be the pit extension by 2 feet. Wayne wants as much space as possible for how large the orchestra is going to be, which will most likely mean reducing the number of leg

supports under the pit extension platforms. This could lead to structural concerns depending on the weight and building style of the revolve. Other scenic elements discussed included Hustoles saying that he envisioned lots of "wheelbarrow" type set pieces, with casters on one end of the piece so they could be transported easily by a single actor and remain stable. There was some more talk about the possibility of buying some automation equipment to power the revolve but the department heads won't come to a decision on that until next week.

1 May 2013

Hustoles came to the production meeting this morning with great news. The department has decided to spend the money to purchase the automation equipment now that the idea for a revolve has been approved. This is a large investment in our department's advancement in technical theatre and I'm very excited about the possibility of being there for its foundation. Paul brought in a ground plan that had a few revisions made to it. Steven Smith, the lighting designer, requested a ground row of lights along the pit extension, so it was shortened a foot to account for that. The deck will be raised up 9 inches to account for the height of the casters and the revolver motor. Hustoles wanted to extend the stage deck in certain areas to make it safer for actors to walk around the curtain legs. There was also a brief discussion of the fly system being used, but the only piece of scenery the director envisioned flying was the bridge that Javert, one of the lead characters, jumps off of. I, along with George Grubb, the sound designer and department technical director, brought up the need for a stagehand that was dedicated to

the automation system because it will be a large system needing constant supervision. This was approved, and now Grubb and I need to search for a good candidate to learn the new automation system for the show. The final subject we discussed at this meeting was the installation of the revolve next fall. Hustoles requires the stage to be rehearsable every night and said he won't be able to use the space if there is a half-built revolve. This will most likely require the revolve to be installed over a weekend with a large work call. This idea concerns me a little bit because it leaves me very little margin for error on the installation of a system I am unfamiliar with. This was our last production meeting for the year, so I'm planning on coming back to school from the summer with more experience working directly with automation through my upcoming internship. I'm also planning on having detailed draftings completed for the entire elevated stage floor.

15 June 2013

Today was the first day of drafting for the set of *Les Misérables*. I'm very excited to get working on this project over the summer. Today I took Paul's ground plan drafting of the set and re-created it with a Computer Aided Drafting (CAD) program called Vectorworks. The reason I like CAD so much is because it allows you to easily edit and reformat your draftings if something changes. I drafted out the whole ground plan and began thinking about how to create the elevated flooring. I think I will try and make the entire floor out of stud walls with sheet goods on top of them. I'll save our stock platforms for the pit extension we need to make. Hopefully making a drafting of these stud walls that is easy to understand will reduce the amount of time the construction will

take. I also hope that my budget is large enough to accommodate all of the material necessary for that. A preliminary look at it shows that there will be a significant amount of sheet goods, which aren't cheap.

28 June 2013

I started designing the pit extension today. My plan is to build the entire extension to stage level and simply put the aforementioned stud walls on top of it. The reason I want to construct it this way is the ease of installation. Because the revolve overhangs the pit edge by two feet the first row of pit platforms will have to be at stage level to accommodate the casters. Rather than building a two-level pit extension, building it all to one level and creating elevated flooring on top of it will be much simpler to install.

8 July 2013

I began drafting all of the stud walls for the elevated flooring on my ground plan today. As previously mentioned, I want to build the entire elevated floor this way for consistency's sake during installation. I want to be sure to have as detailed paperwork as possible to make the entire construction process go smoothly. After I drafted out each individual stud wall I created a list that will help me determine how much material to purchase to accomplish this project. This will also help me for my budget estimating later. I was able to get a fairly good yield on materials and they cost less than I imagined they would. Hopefully this will factor into my budget estimations in a positive way.

18 July 2013

Today I began the process of giving all of the stud walls letter assignments so that the installation will go as smoothly as possible. My thought is that designating each length as a particular letter and then providing a key showing where each letter goes will allow unskilled laborers to easily follow along with the process. Since there are so many varying lengths of stud walls there were more letter assignments than I thought there would be. This caused the drafting to look a lot more cluttered than it should. Hopefully this problem is alleviated when I print it out on larger paper, but if it isn't I may need to come up with a better solution to this problem.

20 July 2013

I calculated my first cost estimation today and I was very disappointed in the results. When I was calculating sheet goods I didn't attempt to get the best yield because I was looking for a rough estimate. This caused my initial cost to be around $4,200 as opposed to my budget of $3,000. It being such a large initial expense confirms the fears I had at the beginning of the production process. As was mentioned previously, there are ways around this problem. I will have to be even more conscientious about the yield of my materials and my stock material availability. I will need to get an accurate count of what stock platforms we have to reduce the number of stud walls needed, but I will not be able to accomplish that until I return to Mankato. This is going to be a long process of re-designing the elevated floor, but one that I am happy to do if it means coming in under budget.

10 Aug 2013

Today I spoke with Samantha Goerss, the production stage manager, about the specifics of the pit extension. I've looked back through all of my notes from the production meeting process and only found evidence saying that we were going to need one. She confirmed this, so I had to decide how best to build this part of the stage. As previously mentioned, Hustoles needs the stage to be useable for rehearsal every night. This means that when the pit extension is installed it needs to happen in one day. In order to make this happen the design for the pit extension should be as simple as possible. However, with the amount that my cost estimation is over my budget I need to find every way I can to reduce the amount of material I'm using. I've decided to make the pit extension two levels, one at the level of the stage and one at the level of the elevated flooring. This will reduce the number of plywood sheets I need to purchase. While this is going to be much more difficult to install in a single work day, I feel that with adequate planning and preparation we will be able to get it accomplished.

23 August 2013

Today we had our first production meeting of the school year. There were a few big surprises for me at this meeting. The first was that Hustoles wants a fully functional revolve by September 8. This gives me 16 days to completely plan out and execute the construction of a 32-foot revolve, which I haven't even ordered materials for yet. This is fairly worrying, but I'll have to do the best I can. The second surprise was that Paul decided he wanted the floor to be individually fastened tiles in a cobblestone pattern

rather than having it be a paint treatment. This is going to be very time-consuming and also increase the difficulty of moving large set pieces on and off stage. Also in the meeting I once again brought up my concerns over the price of the floor. Hustoles told me to not worry about going over budget because this show will make a lot of money for the department. After speaking with Grubb about this he gave me an extra $500 from the general shop budget based on Hustoles's remarks. This helped alleviate a lot of my budget concerns and I believe I will be able to come in under budget with this re-adjusted figure. The only other thing I did today was get a count of all of the stock platforms we have. There are many more than I thought, so I'll be able to remove a lot of stud walls from my construction plans and cover practically all of the elevated flooring going into the wings with these.

26 August 2013

This is the first day in the shop for the building of *Les Misérables*. There was a production meeting last week, but today we finally started to work with actual materials. It was also a short day because of the "majors meeting" that took place in the Ted Paul Theatre, which the entire shop staff was required to attend. The large order of sheet goods I ordered last Saturday came today, although it didn't come until 2:00 p.m. This meant we only got to unload half of the first pallet of materials that arrived. The rest will have to be done by the shop staff tomorrow morning. It is very strange to see such a large amount of material and to think that the by the end of this build, every single bit of it will be attached to the stage.

27 August 2013

Today was my first Tuesday of the semester, which meant my first day having class from 9:00 a.m. to noon. This is unfortunately 3 hours when the shop is up and running, so I'm going to have to do a good job of planning out tasks for the other graduate assistants in the shop at this time. This includes Anna Alex, TS McCormick, Luke Walchuk and Rusty Ruth. Noah Files is another competent supervisor I'll be able to rely on throughout this process but he has the same class schedule as I do. This morning they spent most of the shift bringing in the rest of the sheet goods. This afternoon we started building the custom platforms for the pit extension. They are fairly unique because they have to follow the exact curve of the pit and be built in a certain way to accommodate Smith's ground row of lights that will be hanging off the front of them. We completed a few of them and put the decking on as well. We should be able to finish the rest tomorrow, which puts the build in a good place for my approaching deadlines.

28 August 2013

I started off today working on the most difficult of all the platforms of the pit extension, the one with the cut-out for Wayne, the musical director. I constructed a very detailed drafting of it last night and worked on it while Files finished the remaining two platforms of the curve. The platform took me all day to build, as its structural beams had to be very specific in order to accommodate its supporting 2x6 beams and 2x4 legs. The curve presented some difficulties, but after a while Files and I figured it out. I also had another team of people work on cutting the two lengths of legs for the platform supports.

With all of these legs cut and the platforms completed, the only other component of the pit extension we still need is the beams that run across the pit from upstage to downstage, supporting the middle row of platforms. Those will hopefully be arriving Friday and my tentative date for installing the pit extension is next Tuesday, after the Labor Day weekend.

29 August 2013

Today we got a very big job done that I wasn't planning on even starting until next week. Because I had class all morning I couldn't be in the shop, so I had Alex start cutting the 280 studs we needed for the stud walls for the elevated flooring. I didn't expect them to even finish them all during the 9:00 a.m. to noon shift, but they had already put together several stud walls when I returned at 1:00 p.m. We worked on stud walls the rest of the day, and by 5:00 p.m. we had finished them all and stacked them on stage. I love the fact that we got all of these done and I decided to keep working with them in the afternoon because Alex had started a really good system similar to an assembly line for their construction. However, I am starting to get a bit worried that we haven't even cut out the revolve yet, and that needs to be completely installed before we can even put in the first stud wall.

30 August 2013

Today was a slow day, but some important projects were completed. We started laying out the OSB plywood on the stage to trace the large circle for the revolve. At

Grubb's suggestion, we screwed the plywood down and removed as many gaps as possible. While some other people were working on that project, I started laying out the 32-sided polygon that we will be using as part of our stock caster guide system. Because the angles and measurements need to be very precise in order to get the casters at the right angle on the outer edges of the circle, I took time constructing a very detailed drafting of what these values needed to be. After laying it all out, I made the cuts very carefully with a circular saw rather than a jigsaw. This is because circular saws have a greater tendency to cut in a straight line, which is very important to this project. Right as I finished the polygon, the other workers were finished laying down the sheets of plywood on the stage. We used a stick of 1-inch by 2-inch box tube steel as a beam compass to draw the circle using a hole cut for a permanent marker that kept the radius at exactly 16 feet. We used a stick of rigid steel to ensure uniformity of the circle width all the way around. We completed this project right at 5:00 p.m., and had to leave all of the plywood screwed to the stage for rehearsal. I had previously cleared this with Hustoles because I wasn't sure we were going to get done for the day, so it wasn't an issue.

1 September 2013

Today we worked on cutting out the rounded pieces of the revolve. I felt badly about leaving the pieces of plywood on the stage over the weekend, so Alex and Files came in with me on a Sunday to work. It never ceases to amaze me how much work three skilled workers can accomplish in a short amount of time. After cutting out the round pieces on all of the OSB plywood, we still had enough time to trace the pieces we

had just cut onto the BC plywood and get all of those pieces cut out. In addition, we were able to clear the stage of the remaining sheets of plywood to give Hustoles a clear space to rehearse on again for Monday night. I was slightly concerned about the progress on the revolve up to this point, but now I am much more confident that we will be able to install it by the deadline given.

2 September 2013

Today was a short easy day because it was Labor Day and we didn't have classes. However, with the revolve install date coming up I felt badly about not working for the day. Jordan Wolfe, another graduate assistant in the shop, and I came in for two hours to get things ready for the pit extension installation tomorrow. The main project we worked on was cutting the small 2x4 pieces that will hold the second and third rows of platforms at their new +10" height. I've devised a system for them that I really hope will make the installation a lot easier. We also spent a little time pre-attaching these pieces to their respective beams so that the installation can start right away in the morning tomorrow.

3 September 2013

Today is the day we installed the pit extension. I wasn't sure if we were going to get it all in by the end of the day, but it ended up working out perfectly. The day started off with difficulty as I had my scene painting class in the morning again. I showed up early to run through the process with Alex, who has been a wonderful supervisor so far this year, but I neglected to realize that she did not help install the pit extension for

Legally Blonde last spring. With the systems being very similar, I was hoping to briefly describe the changes and let her get to work. However, this turned into a complicated description of the system which ended up not really being effective. I also partially failed as the technical director because I did not have any detailed drawings of how the legs and beams were going to be attached. This was because I'm not very good at 3D modeling with my draftings and this was a system that was too complicated to draft in 2D. I was hoping that the experience from *Legally Blonde* would lend itself to the work today and this lack of a contingency plan made things very difficult because I had to leave for class. Luckily, Grubb showed up to help straighten things out, but even he was a little confused about my system. This was a good learning experience and I'm resolving not to let that lack of direction happen at any other point during this production process. As for the actual installation process, everything went fairly smoothly. We taught some new shop workers the basics of what we were doing and they were a tremendous help. My system for elevating the second and third rows of platforms up to the new +10" height worked wonderfully, and we finished everything except screwing the legs to the floor by 5:00 p.m. Overall, a successful day with a large project completed.

4 September 2013

Today was a rather easy day in the shop, compared to yesterday. Grubb requested as many people as he could have to do the seating changeover for the first studio show of the year. I let him have all but one of the workers because yesterday I had to use all of them for the whole work day. Working with him on this seating changeover has been an

interesting challenge because of the rapidly approaching deadlines I'm facing and the reduced number of people normally working in the scene shop at the beginning of the year. However, I'm looking at it as a scheduling obstacle to overcome and I'm optimistic I can meet my building goals. As for the projects we worked on, we finished leveling and screwing down the legs on the pit extension as well as cutting the curves for the elevated flooring that will surround the revolve. When the legs were finished the platforms still made squeaking noises, so Grubb and I attempted to deduce what was causing this. After placing two extra legs in problem areas, at Grubb's suggestion I've decided to bolt all of the beams to the legs rather than simply screwing them in. I'm hoping this alleviates the flex in the system and adds to the stability of the pit extension as a whole. Tomorrow is the day Paul promised me some more draftings of other scenic elements, so I'm excited to see what else he's planning.

September 5 2013

This morning we had had our third production meeting of this school year, which seems strange considering how much of the set is already complete. It also makes me feel slightly worried about how much set I still have to build. In the meeting we discussed exactly what type of automation Hustoles wanted for Sunday evening's rehearsal, which is the deadline for me having everything installed. We actually decided that we wouldn't have any automation until Tuesday the 11th because of the arrival of our guest artist on Sunday evening. This gives me a few extra days to get the automation system up and running, which alleviates my concerns quite a bit. I asked for a

rudimentary set of cues for the entire show so we could start programming them into Spikemark, the automation program we will be using, but Paul, Hustoles and stage manager Goerss still need to meet to get them finalized. We also discussed the barricade more, which is proving to be much larger than I thought it would be. Right now the tentative width is 26 feet, which is almost the complete width of the revolve. It also needs to have platforms and walkways to support three different people, so it will present some interesting challenges during planning and construction.

7 September 2013

Today we installed the revolve. It was an extremely daunting process at the beginning of the morning, which started off slowly because only three graduate shop assistants, Files, Alex and I, showed up in the shop by 9:00 a.m. We started by installing the 32-sided polygon. After carefully finding the center of the proscenium and measuring back the right distance we screwed the piece in. The next step was to install the four caster guides at the 90 degree marks of the polygon. We followed our chalk line for the guides that ran downstage to upstage and we measured up from the plaster line to insure that the caster guides that ran from stage right to stage left were square. Next, we taped a protractor to the center of the polygon and began putting down chalk lines every 11.25 degrees, which is the angular spacing for the 32 caster guides. Hustoles stopped by to see how we were doing around 10:00 a.m. and by then we only had a few of the caster guides down. I could tell he was slightly dismayed by our progress, as well as the fact that we only had three graduate assistants working at the time. We pressed on with the process,

which became less time-consuming as we developed a routine for doing it. Wolfe arrived at 11:00 a.m., and with his help the job went considerably quicker. An extra set of hands allowed us to remain more stationary with our tasks, helping us finish them quicker. We managed to install all of the caster guides by noon and then took our lunch break.

At 1:00 p.m. we had a few more graduate assistants, McCormick and Kate Kanne, show up and help us start installing the casters. While four of the six workers worked on lag screwing down the rings of casters, Files and I began to install the center pivot point. We already had the center two pieces of plywood for the two different layers attached together and drilled out with alignment holes, so it was simply a matter of installing the center revolving plate on its block of plywood and bolting the two plywood sheets to it. From there we began working our way out with the sheets of plywood on the bottom layer. We had to simultaneously install the top layer of plywood as well, because the sheets overlapped in such a way the top layer was often needed to support the bottom layer in the gaps between all of the casters. This process of gluing and screwing the two layers together simultaneously took the rest of the day. The graduate assistants even agreed to stay past 5:00 p.m. in order to finish the last few pieces of plywood because this would allow the glue to dry overnight on all of the pieces before the cast would walk on it during rehearsal Sunday night. When the revolve was finally finished I had to stand back and admire it. It is a constant source of amazement to me how much work can be accomplished by a few skilled laborers in a few short hours. Overall the day went extremely well and I'm very excited to start filling in the elevated floor around the outside of the circle tomorrow.

8 September 2013

After a fantastic day yesterday, today was kind of a disappointment. Walchuk and I were the only two graduate assistants who showed up in the scene shop this afternoon. Wolfe showed up in the shop at around 5:00 p.m. and offered to help me out until 6:00 p.m., which I accepted. Despite the fact that we had so few people we still got a lot accomplished. We installed all of the sound-dampening fiber board on the revolve surface, and put in 8 feet of elevated stage floor as per Hustoles's request. He asked for this much to eliminate the 10 inch drop off between the revolve surface and the elevated pit extension surface. It was disappointing because a lot of graduate assistants said last week that they were going to be in the shop on Sunday and then didn't show up. If they had then we could have gotten even more elevated flooring installed, which is an incredibly large job. I will just have to put the full force of Monday shop labor on installing it tomorrow and see if we can get that accomplished. I stuck around until rehearsal to see how Hustoles liked the revolve and he was thrilled to see it installed and able to rotate. That was the perfect ending to a long weekend of hard work.

9 September 2013

Today I experienced a setback that may be quite large. Hoping to install the automation package, we pulled everything out of its box and began to plug the equipment in. However, we ran into a problem with the power supply. The 4-pin extension cord I thought we had to run power to the revolver had a terminated end with no plug on it. Jaeden Wellner, our designated automation technician, said he was able to wire it back on

but Grubb would not allow him. This was incredibly frustrating at first because he wasn't sure when we could get the building electricians to show up to wire it in. I impressed Hustoles with getting the revolve in over the weekend and I didn't want to let him down by not having the automation up and working by Tuesday night's rehearsal. By the end of the day I had thought a lot about Grubb's decision and realized that he was right. The risk involved in wiring a plug into such a large power system is in no way worth the reward of having the automation working so quickly. We will simply have to wait until tomorrow or Wednesday for the building electricians to arrive and get us a power source for the friction drive motor, or revolver. While Grubb, Wellner and I were dealing with the automation equipment, I had the rest of the shop continue to install the stud walls and elevated flooring around the outside edge of the revolve. They almost finished it entirely, which was extremely satisfying to see.

10 September 2013

The building electricians arrived this morning and gave us some relieving news. The 4-pin plug we wanted to plug into in the scene shop was not a 3-phase power supply, which is what the revolver runs on. If we had plugged the revolver into it yesterday we would have burned out the motor, so Grubb definitely made the right call on waiting. The electricians said they would be back in the afternoon so we looked forward to the possibility of having the revolve working by the end of the day. The morning shop crew began installing the sound-dampening fiberboard over the rest of the elevated floor. The afternoon crew began cutting 6-inch square pieces of masonite for the floor treatment that

Paul devised. He wanted the entire floor covered in a cobblestone pattern with these 6-inch squares to give it the texture he was looking for. Based on my calculations this will require around 6,000 of these squares to cover the area that he wants, which will make striking the set incredibly time-consuming. By the end of the day the shop crew had cut out about 3,700 of them, which will be a good start for the floor.

The building electricians showed up around 3:00 p.m. and started installing a 3-phase power supply in an upstage electrical panel. They were finished by about 4:30 p.m. so Files and I began setting up the automation equipment once again. We manually jogged the motor using the Programmable Logic Control box (PLC), but when we attempted to move the revolve using the Spikemark software that came with the revolve we couldn't get it to work. This was a simple networking error we made that Grubb solved when he returned at 5:00 p.m. We finally had a working revolve so I informed Hustoles that we would be at rehearsal that night as originally planned to program all the cues. At rehearsal however, we ran into a problem with the accuracy of the revolve rotations. Each full revolution was about 5 degrees off, which was unacceptable for Hustoles to program with. Grubb and I decided to stick around after rehearsal was over and tune the motor by adjusting different parameters of the motor's function. Hustoles still wanted the cast to get a feel for the revolve however, so we manually ran it for a few scenes for the benefit of the actors.

When we started tuning the motor after rehearsal, it was clear something was not functioning properly. The tuning process the motor manual gave us was simply not working and was making the revolver function erratically. The motor features something

called an encoder wheel which basically keeps track of the position that the revolve is in and how far it has rotated with each cue. While tuning the motor, we noticed that even after the revolve had stopped moving the software was telling us that it was still turning. After checking the encoder wheel, we discovered that there were a few discrepancies in the diameter of the revolve that were causing the wheel to lose contact with the outer surface of the revolve. Tuning the motor has exacerbated this problem so after adjusting the encoder wheel's tension and position we started the process over. This time it worked well. We tuned the motor to the point where we could rotate the stage three full rotations and only be off our spike mark by an inch. While this put us a little behind schedule with Hustoles, it is still a huge relief that we have the motor working properly now.

12 September 2013

This was a very long and very productive day for the production. The morning started off with a production meeting. The first thing I brought up in the meeting was moving the opening for the sewer entrance. The current location of the entrance was crossing over the elevation change on the pit extension platforms and Hustoles had no problem with moving it downstage. We then discussed the barricade. This barricade is turning out to be a much bigger project than I anticipated. Now Hustoles is wanting up to twelve different perches for people to stand on, which will significantly increase the complexity of the underlying structure of the unit. We also discussed the automation this morning, including coming up with a contingency plan if the automation fails in the middle of a show. This is an issue I pondered all summer and had yet to come up with a

satisfactory solution to, so I will need to keep searching for an answer. The decision was also made to have Wellner sit up in the booth to run the automation for the performances.

The morning scene shop crew began the day by starting the masonite installation on the revolve. The graduate assistants took the lead on the project, laying out the patterns themselves. Installing the masonite tiles on the revolve continued into the afternoon. Laying out the patterns was a fairly simple process, but then workers had to go back and fill in all of the gaps that the patterns left. This was a very time-consuming process and the entire labor force we had in the shop was working on it by the end of the day.

Tonight, Wellner, Grubb and I attended rehearsal to program the automation for the revolve. Since I had been studying Spikemark all week, I took the lead in programming. It took a few cues before Hustoles and I developed a common language for the process, which then made the process much more efficient. We got all of the cues programmed for Act I with the actors running the rest of the scene between cues, so I think it was a very productive evening. Hustoles seems to love the look, efficiency and exactness of the automation. These are the reasons I really wanted to have the department purchase the automation equipment last spring, and I'm glad to see that the department's decision is paying off.

13 September 2013

The scene shop crew started the project of stapling down all of the tiles around the outside of the revolve. We are still using the process of two staples per tile, and the floor

is coming in quite nicely. My only concern is that over the course of the run some tiles may come loose, so we may have to go over the entire floor and put a few extra staples in each tile. This will be time-consuming, but if the tiles are still coming up then there is nothing else I can do. I'm trying to make strike as easy as possible, while still having a complete and safe product for the actors in the show. Tonight, we programmed automation cues for Act II of the show. It went smoothly, like last night, and Wellner is confident in his abilities to run the program. Sunday is the first day we will run the whole show with automation and Wellner will be running it by himself. Grubb and I will be there in case something goes wrong, but I don't think that will happen.

15 September 2013

Tonight we ran all of the automation cues in the show while the actors ran both acts. Wellner set up and ran all of the automation equipment, which was good practice for him. The revolve worked very well and it was really gratifying to see all the hard work I put into the revolve finally pay off for the show. Hustoles made some very interesting blocking decisions regarding the revolve and I think they look great. There was no problem with any of the automation, so from now on Wellner will be attending rehearsals and running the revolve until the production comes to a close.

16 September 2013

This week marked the start of construction on all of the rolling scenic units. The revolve and floor have taken up so much time and labor that today was the first chance to

actually work on the other pieces of the set. Today we started building the walls for the Rue Plumet gate, which marks the entrance to Valjean's home. Paul wanted the gate to be made out of actual metal so I had to make the walls very sturdy to support those frames. The only other part of the set people worked on was the infill between all the tiles on the floor. The cobblestone pattern we used left fairly large gaps in some places, so scene shop workers have to go back and individually cut each piece to fill all of the gaps. This will be a fairly time-consuming process but the shop needs to keep progressing on the rest of the show. This will have to just be a project that I give one or two people to each day until it gets completed.

17 September 2013

Today we worked on a variety of different scenic elements. Files started the day with constructing the different barrel platforms that Paul had designed. There will be three of them along with some dock pilings for the scene down by the harbor. Since these platforms were not actually all drafted out but rather "designer decision" units, Paul instructed Files what barrels and crates to use and he put them together organically. We also started construction on the factory door unit today, which was a challenge because of the factory doors with curved tops that we will have to construct to fit into the opening. I had some workers continue the tile infilling project, and we added a few more elevated platforms around the edge of the stage so that it would be easier to move a few scenic elements on and off. Overall it was a productive day and it's rewarding to see the other large scenic elements begin to take shape.

18 September 2013

I received the initial draftings for the barricade this past Monday, and we began building the stage right barricade frame today. Since Paul didn't have very detailed draftings for it but rather had me design it based off his ½" scale model, it was challenging to come up with shop drawings for it. But with other people in the shop continuing to work on the tile infilling project, it allowed Alex and me to construct the oddly shaped frames and get the entire form up and on casters by the end of the day. Since there will be a lot of weight on these frames due to furniture, I decided to bolt all of the legs on to make the entire unit more solid. With cross bracing added between the legs, I was able to hang on the top of the frame and move around without the unit flexing much, which was my main goal. The stage right barricade section is the smaller of the two units because there is more storage space on the stage left wing. I'm hoping that it exits off the same way it comes on because I'm starting to get concerned that the amount of elevated flooring we have isn't enough to hide these giant units behind the curtain legs. I'm also struggling with finding a good way to construct the bridge unit that has to fly in and out. Grubb and I have discussed a few possibilities that haven't sounded too promising, so I'll have to bring up my concerns in the production meeting tomorrow.

19 September 2013

This morning's production meeting started out very positive but became slightly alarming by the end of it. Hustoles commended me early on for the amount of work I've gotten done in a short amount of time. This was flattering, and I enjoyed being

commended for the amount of work I've put into this production. Later on in the meeting however, I asked the simple question about whether or not the barricade enters and exits the same way because one side was almost four feet longer than the other. Since the barricade didn't exist yet, neither Paul nor I had any idea how the entrance and exit of it was blocked. Apparently Hustoles had the two sides going off opposite directions from which they entered, which meant that the longer unit would not be hidden on the stage right side of the stage. After a lot of discussion, we decided the easiest thing to do would be to reduce the length of the barricade by 3 feet and add a stand-alone unit that latches into the side of the larger unit that could be easily removed backstage.

After this matter was resolved, I brought up my concerns about the design of the bridge. With such a narrow base on a flying unit, it would be dangerous for an actor to then try to climb on it and jump forward off of it, which is how Javert is blocked for his death scene. It was easy to tell that Hustoles was frustrated about bringing up these concerns so late, but as the technical director I had to let the technical team know that I was concerned about the safety of the actors over the convention of the design, even if it was late in the production process. Grubb, Paul and I agreed to come up with a solution by tomorrow in order to get it built and hung early next week. It was exasperating to have such a good start to the meeting and then have it end so poorly.

In the shop this afternoon, we had a great day because we finished the floor. All of the gaps between the tiles have been filled, and besides the occasional tile someone rips up during rehearsal they seem to be holding down pretty well. I really hope we don't need to go back over it and put a screw in every tile. We also put the factory door unit

together and it feels incredibly solid for how few walls there are. My hope is that adding the dimensional brick hardboard to it gives it even more strength and stability when rolling on and off.

20 September 2013

Since there is always a large labor force in the shop on Fridays, today we accomplished a lot of time-consuming tasks that needed to be completed. We painted the entire floor black, which made it look incredible. I also had a team working on stage brakes for the factory door unit and the gate unit. I'm going to have a hard time trying to mask them, but I feel like now what the units need is a little stability over a finished appearance. I also had a team install the brick hardboard on the factory door unit. This alone made the piece look really great, and I know with Paul's final paint treatment it will look even better. These scenic units are looking better every day and I'm getting excited to see the final product.

Also today Grubb, Paul and I had a long discussion about how best to proceed with the construction of the bridge structure. After a lot of quick sketches and disagreements, we decided that the safest, best way to accomplish most of Paul's original design intent was to build a structure that was 18 inches wide and shaped like a box. Paul will then attempt to create the open arch underneath the bridge by putting thin dimensioning on the bridge and painting the arch black. Grubb and I were satisfied with the safety of this unit to fly and Paul was sure he could made the bridge look like it had open space under it. I will now have to spend some significant time this weekend

working out the rest of the bridge structure in order to facilitate the four fly lines and pick points that will be needed to hoist such a heavy unit up in to the air. However, this extra preparation will help facilitate a quick construction time once the bridge base is complete.

21 September 2013

Today was an irritating day in the shop. I wanted to have a big final weekend work push before technical rehearsals started next Friday, but two of the four weekend volunteers called in sick this morning. This left just Walchuk and me for the morning to work, since he had to leave at 1:00 p.m. I had him start working on the big arch that goes over the Rue Plumet gate while I began working on installing the soundboard on the factory door and gate unit. While this wasn't a very high priority job it was one of the only tasks I could do by myself and it still resulted in progress on the set. I'm really hoping more people show up tomorrow because I'm starting to worry about getting everything done for our first technical rehearsal in six short days.

22 September 2013

The disappointment continued in the shop today as I only had two workers, McCormick from 1:00-3:00 p.m. and Ruggio from 1:00-5:00 p.m. While they finished up the soundboard and masonite installation on the factory door unit and gate unit, I began working on the stage left barricade section. It was now divided into two parts including the stand-alone unit discussed previously, which was very frustrating because I had to spend several hours re-doing my shop drawings to make them work. However, by

the end of the day the larger stage left barricade frame was complete and on casters. We rolled the two barricade units out on to stage and they looked very impressive. I'm meeting with Paul tomorrow morning to discuss how we want to move forward with the barricade. We have talked in multiple production meetings about how the barricade is going to develop "organically" according to Paul, but I've voiced my concerns in these meetings over this. With such a large unit developing "organically" it doesn't give the technical director much time to actually plan out a safe construction method or final product. I don't know how much weight is going to be going onto these frames or how sturdy all of the furniture that will be attached to them will be. The only thing to do is accept this process and try to make the final product as stable and safe as possible while still having it done on time. I'm looking forward to the challenge.

23 September 2013

Today was a very interesting day in the shop. Paul showed up and began to start picking and choosing things to put on the barricade. I wasn't sure how involved I had to be in this process because he was simply adding different furniture and other items from prop storage and pointing at where they should go. So I put Files in charge of this project and built the stand-alone barricade unit by myself. We also built some ladders to attach to the barricade as per the model so that actors had a safe way to get up to the tallest platforms. With the first layer of furniture in place, we installed drop pins into the corners of each barricade unit to make it more stable as it was standing in place. While all of this was going on, I had McCormick start building the structure for the bridge unit.

Hustoles stopped by to look at how things were progressing and seemed concerned about how the bridge was being constructed. However, Paul still is certain he can make the bridge look convincing and I'm firmly set that this is one of the only ways to build the bridge and have it be safe for an actor to stand on and jump off of. Tomorrow, work on the barricade will resume and I'm happy with the progress we made in the shop today.

24 September 2013

The construction of the barricade continued this morning. It is progressing nicely and Paul is taking the lead on the project. With most of the shop labor focused on that job, it gave Grubb and me time to work on rigging the bridge. The whole process went very smoothly. We ended up connecting the rigging lines to the bridge an inch and a half off of center to compensate for the strange weight distribution of it. While carrying the bridge out to the stage we bent one of the rigging elements, so it quickly had to be replaced. However, we got the bridge flying and counter-weighted properly, so it is able to be used in rehearsal tonight. Overall it was a productive day in the shop.

25 September 2013

With the barricade developing more and more every day, today was spent doing other small tasks in preparation for our first technical rehearsal this Friday. The ladder down to the orchestra pit had to be moved to more easily accommodate the actors' exit. We also hung the stand-alone door that is used as the innkeeper's door in the beginning of the show. While I helped supervise the barricade construction, I gave Files the task of

hanging the door. It is really nice having other competent scene shop workers who are good at problem-solving because this means that I don't have to supervise every single project. Files came up with an effective way to make the door latch catch that I probably wouldn't have thought of. On the barricade we had to expand the platforms on the top of the frames because Hustoles was concerned that the open holes were dangerous for actors. While this changed the look that Paul wanted for the barricade, I agree that the decision to do that made it much safer for the actors who will be standing on the top of it.

26 September 2013

With our first technical rehearsal tomorrow night, today was dedicated to finishing the barricade and starting the final scenic elements that any actor would need to interact with. Since only a few graduate assistants in the shop know how to weld, Grubb volunteered to work with Alex on welding together the metal gates for the Rue Plumet gate. The barricade units have still been pulling up tiles, so I started a group of workers on putting a screw down in the center of each one. I've been trying to avoid making that call for as long as possible, but it's becoming such a problem in rehearsal that it has to be done. This is going to make striking the show a very time-consuming process, but it is a necessity.

27 September 2013

Today was the big push to get everything done before our first technical rehearsal tonight. I came in early this morning to weld the gates together because not much

progress was made on them yesterday. While another worker and I continued this project in the afternoon, I put another group led by McCormick in charge of building the factory doors. While these two groups were finishing up these final products a third group was working on screwing down the tiles. They managed to screw down all of the tiles surrounding the revolve. Next Monday when we have shop labor we will finish up that project, which will be in plenty of time for opening. After all of the progress in the shop today, our first technical rehearsal went fairly well. There were a few issues with the gate and factory door latches, which I will have to come in tomorrow and fix. I'm planning on being in the shop all day tomorrow, so hopefully after tomorrow night, there will be little to do.

28 September 2013

We got a lot accomplished today in the shop, but it wasn't enough to prevent me from having to come in tomorrow. A few graduate assistants were in the shop for the afternoon and we actually completed a lot of revisions that needed to be done. One of the biggest projects was changing the gate and factory door latches so that they were more actor-friendly. I switched the drop pin hinge on the gate to a simple barrel lock that was tight enough to not let the gates swing too far when they were closed. For the factory door latch I made a simple turning latch that fit snugly and wouldn't break. Last night, Paul informed me that I had to build another stand-alone barricade unit for the stage right side of the barricade. The cast has currently been using a table as part of the barricade, but Hustoles wanted something they could permanently attach furniture to in order to

make it look more like a defensive barrier. While I understand the desire for this look, it is frustrating that more set pieces are being added to the show after the technical rehearsal process has started. As for the other graduate assistants, I put McCormick in charge of finishing the railing on the flying bridge unit and Ruggio in charge of building the aforementioned stand-alone barricade unit. Both of these projects were completed by the end of the day, as well as re-attaching the door stops on the factory door unit that were installed incorrectly.

Despite how well work in the shop went today, our second technical rehearsal did not go very well at all. All of the actors that interacted with the Rue Plumet gate had trouble getting the barrel lock open, so tomorrow I need to come in and make a custom metal catch latch that is simple for them to operate. Another surprise tonight happened when one of the casters broke off the gate unit. Luckily I was able to run up to the stage and reattach it in a short amount of time, but it was still very frustrating to see. Now I have to deal with that tomorrow as well as the gate latch.

29 September 2013

Today in the shop was spent changing out the casters on the gate unit and fixing the latches on the gate and factory door units. The catch latch for the gate took a considerable amount of time because I had to custom grind plate steel we had in stock to make the latch useable and safe for actors. I also decided last night that we'll need to switch out the casters on the barricade unit. The casters that are currently on the barricade units are making it very difficult for the actors to roll them on and off. The

units are also ripping up multiple tiles every night that aren't screwed down yet. So today we had a work call for members of the cast to come in and help screw down tiles. In two and a half hours, with five cast members, we were able to screw down all of the tiles on the revolve. Our first dress rehearsal went well and there were very few notes for me personally. However, a caster did break on the factory door unit as well, which means I will most likely have to replace all of those tomorrow.

30 September 2013

Today was a big day in the shop because we replaced all of the casters on the barricade unit. The smaller casters I originally picked to reduce the height of the barricade frame weren't rolling very well and were ripping up floor tiles. We started the process by jacking up one end of the barricade unit and putting it on blocks. We then repeated the process on the other end until the entire barricade frame was elevated enough to switch out the casters. The whole process took about two hours and the barricade rolled much more smoothly with the new wheels. We also replaced the casters on the factory door unit, which caused it to become very unstable. With such a high center of gravity caused by the large doors the unit was prone to tipping, so at Paul's suggestion, I installed some outriggers with counterweights on them to the back of the unit. These are not only unable to be seen by the audience, but they also give the unit an incredible amount of stability when opening and closing the doors. Second dress rehearsal went very well tonight and there were only a few notes for me, which makes me feel very good going into student preview tomorrow night.

1 October 2013

Last night watching the second dress rehearsal, I got slightly nervous about how unstable the stage left barricade unit looked. Today Grubb and I spent a long time with Paul discussing how to devise a solution to this problem without it being intrusive to the actors. We determined that the new casters were partly to blame for this problem. They raised the center of gravity on the unit up just high enough that it now was unstable. Also, during the construction phase of the unit, more furniture was placed on one side of the unit than the other. This created an off-balance load on the frame, which was also partly to blame. The problem with such a large scenic element developing organically is that it makes it very hard for the technical director to account for the physical forces on the unit efficiently. We developed the solution of putting a simple outrigger on the unbalanced side that would be bolted into the frame and stick out just far enough to cross the center of gravity on the unit. This would require the unit to experience an exponentially larger lateral force in order to cause an unbalanced enough load to tip over. After I was satisfied with the solution, Hustoles approved it with the caveat that we scenically dress it to look like the rest of the barricade. I was happy with this solution and glad that we came up with a way to make the barricade safer for the actors without changing the overall aesthetic of the scenic unit. It was a good example of collaboration between the technical director, scenic designer and director. Student preview went well tonight and the only big note we received was to add dimensioning to the bridge unit to make it seem more realistic. This can easily be accomplished tomorrow and I'm incredibly happy with where we are on the show.

2 October 2013

Today was a fairly light day in the shop. Most of the shop's labor went to Whitley Cobb, the technical director for our next mainstage show, *Blithe Spirit*. Files and Walchuk headed up the project of putting more dimensioning on the bridge, under the supervision of Paul. I worked on filling in a few spots on the barricade where the audience was able to see Smith's strip lights through it. Part of the process of attempting to stabilize the stage left barricade section was adding a significant number of rigging counterweights to one side to try to balance it better. With roughly 500 extra pounds of weight on it, I became concerned about the joints of the 2x4 barricade frame holding up. To alleviate this concern, I welded together some 1x2 box tube steel frame to attach to the bottom of the barricade frame. This solution should spread out the extra weight more evenly over the frame, meaning that I have less cause to fear a break due to the cumulative strain on the joints. With corporate preview tonight, I am thoroughly satisfied with the set and believe that we are ready to open the show. The only time I will have to work on this show throughout the rest of its run is if some scenic element breaks.

7 October 2013

The first scenic element in the show broke last night. I found out from stage management that apparently the actors had been having trouble with the clamp locks that connect the stand-alone barricade units to the larger units for days now and no one spoke up about it. During yesterday's matinee, the stand-alone barricade unit for the stage left barricade tipped over as an actor jumped off it, causing him to sprain his ankle. This was

incredibly frustrating to hear as the technical director. If I had known about the problem when it first arose I could have solved it immediately, preventing this whole accident from happening. I also feel badly for the actor that got injured. He was supposed to be able to trust the safety of the set that I created, which I also trusted until this miscommunication happened. So today I spent a few hours reattaching and reinforcing the clamp locks on the stand-alone barricade units. This should alleviate the issue and I hope we have no more problems like this for the rest of the show's run.

13 October 2013

Today was strike for the show. There were no more problems that fell under my realm of responsibility for the rest of the show, which was very nice. Strike went fairly well and was safe, but the floor did not make nearly as much progress as I was hoping. I knew we wouldn't get it all up with the number of people and tools we had, but I was hoping we would have gotten more up than we did. The entire barricade, gate unit and bridge unit got struck though, which was exciting. *Crumbs From the Table of Joy*, the next show in the Ted Paul Theatre, rehearses on the stage on Wednesday, so the rest of the set will have to be struck by that night. Luckily Grubb promised lots of shop labor to help, so that shouldn't be a problem. Overall this was a very satisfying end to the project.

CHAPTER IV

POST-PRODUCTION ANALYSIS

In reflecting on this set-building experience, this technical director feels he achieved the scenic design goals satisfactorily and in a timely manner considering the large scope of the design. While some aspects of the process were daunting, these challenges provided very useful educational opportunities in planning and organization because of the extremely tight time constraints. Without a large amount of pre-planning and preparations, there were parts of the design that simply wouldn't have been able to be installed. Despite looking like a very simple set, the complexity of the design required significant technical research and creative solutions in order to be completed on time and according to the scenic design intentions.

Perhaps the most important educational experience for this technical director was learning the role that automation can play in technical theatre. While the installation of the revolver and automation network was complicated, it yielded practical knowledge that he will hopefully be able to apply to other projects in the future. Dealing with setbacks like computer malfunctions also gave him useful experience in disaster avoidance and quick problem solving. With the area of automation quickly growing and becoming a leading field of technical theatre, this project provided this technical director with an amazing opportunity to work with this new technology firsthand and begin to understand it.

Concerning the construction of specific set pieces, the floor was by far the largest project. The revolve is the largest part of the floor and is the most significant set piece in the entire scenic design. As discussed previously, there are many decisions that factor into a revolve's construction. This technical director decided to build a casters up, bread-and-cheese slice method revolve with a revolving plate as a center pivot point and an automation device for power. The decision to use the bread-and-cheese slice method for the revolve frame was dictated mainly by the revolve's enormous size and the short height of the elevated floor. With an elevated floor height of 10 inches, the frame method would require casters that would be too small to support the enormous weight of the revolve. Furthermore the pie slice method lends itself much better to smaller revolves, so the bread-and-cheese slice method of construction was deemed best for a revolve that was 32 feet wide. As mentioned previously, the bread-and-cheese slice method is most well suited to the casters up method.

An industrial strength revolving plate was chosen as the pivot point because of the lack of access to the point for lubrication and the ease of installation. If the pipe and flange method had been chosen, it would have required access to the pivot point for continual lubrication. The pillow block method did not require lubrication but securing the pipe to the revolve would have left a weak contact point between the two, making the revolving plate the best option. As previously mentioned, the theatre department made the decision to purchase an automated revolve system, so that system was used to power the revolve. This technical director believes the purchase to be a good investment, both for practicality of use and its educational benefits for the program.

Since the revolve overhung the pit extension by two feet, this was the next scenic element to consider. The pit extension was built in two levels, one at the stage height and one at the elevated floor height, with legs on the far upstage and downstage sides. Beams ran between these legs and supported the center of the extension. This method reduced the plywood requirement by 10 sheets of plywood. While this method was more complicated, it saved roughly $200 on the construction budget. The reduced number of legs connected with beams was chosen to give Nick Wayne, the musical director, enough room for his large orchestra. While this was also more complicated because of the two-level method, it was completed safely and solidly. It should be noted that all of the connecting points on the pit extension platforms, legs, and beams were attached with bolts for increased stability.

For the elevated flooring surrounding the revolve, a combination of stud walls and elevated platforms was used. A square around the revolve that would have required custom platforms to be built was filled in using the stud wall method and the rest was completed using stock platforms with elevated legs. Although making custom platforms to surround the revolve would have taken less time to install, the decision to use the stud wall method was made to reduce the amount of material necessary. The platform method requires significantly more lumber to complete, so the hardest section of the elevated floor was done using stud walls. Since stock platforms were used for the rest of the elevated floor, the use of material was not a concern.

The final portion of the floor that required deliberation was the attachment of the individual tiles of masonite. In hindsight, this was the portion of the set that caused the

largest amount of problems for the scene shop crew and the most amount of frustration for both the director and technical director. The initial reasons for choosing the attachment method were flawed and bad decisions were made by this technical director when attempting to find a solution. Since there were roughly 6,000 tiles to attach, this technical director made the choice to used pneumatic staples to fasten them down. To reduce the blemishes on the top of each tile, narrow crown staples were chosen and initially two were used on each tile. However, this method was ineffective because set pieces rolling over the tiles loosened and freed several of them during each rehearsal. This started to become a significant problem during each rehearsal because each freed tile presented a safety hazard to actors who were kneeling or lying on the floor.

With the hope that the tiles simply required more fastening strength, the decision was made to put five staples in each tile. This proved ineffectual as well because tiles continued coming up. The freed tiles began destroying the casters of moving scenic units rolling over them, which was equally problematic. Finally, the decision was made to put a screw in the center of each tile to hold it down. This was a very time-consuming and expensive process but a necessary decision to make. This finally solved the problem and no more tiles came up due to otherwise smooth-rolling scenery. This technical director should have chosen screws from the beginning of the process but was simply hoping to reduce installation time on what was a dauntingly large and time-consuming project.

With the floor completed, the next largest scenic element to consider was the barricade. This element was particularly challenging due to the short timeline of the construction process because the scenic draftings were received 11 days before the first

technical rehearsal. The only draftings received were for the frame of the barricade alone, which was enough to work with but presented problems later on in the process. In conference with the scenic designer John Paul, the decision was made to build the barricade frame out of wood. This would make all of the furniture easier to attach and make the frame blend in better. Since a wooden frame would need extra bracing to be stable, this increased the amount of material needed for the barricade. However, with the small number of competent welders the shop had and the amount of welding that would have been required for a steel frame, this was the efficient decision to make. After the frames were built, casters were attached to the base and furniture began being fastened on.

As previously mentioned, Paul desired that the barricade develop "organically," so he took over the process of attaching all of the furniture to make sure it had the look he intended. This resulted in some unforeseen challenges that needed to be addressed. With a structure this large being constructed without previous knowledge of its design it is extremely hard to efficiently account for the physical forces on the structure and its stability. The structure developed in such a way that one side was significantly overloaded with furniture high up, making it susceptible to tipping over. This presented a problem for the actors interacting with the scenic unit because they were concerned about the safety of their blocking on top of it. Many attempts were made to allay the actors' concerns from a technical perspective, from subtly improving the unit's stability using counter-weights to addressing them openly through stage management. The development of the rehearsal process did little to dispel the actors' and this technical director's

concerns over the unit, however. An outrigger, or lateral support to improve stability, was added to the structure and disguised with more furniture to effectively solve the problem. The organic nature of the barricade's development caused another problem, however. With only the frame built it was hard to judge exactly how much furniture and therefore weight would be added to the structure. This technical director had had little experience dealing with the planning and construction of large rolling scenic units and initially chose casters for the barricade that were not large enough to account for the barricade's size and weight. The barricade units had to be jacked up and rested on blocks in order to change out all of the casters with larger ones. While this was a difficult process, it effectively solved the problem and the barricade rolled much more smoothly afterward. This was a very educational experience for this technical director and having to address a challenge of this magnitude gave him both practical knowledge to use in the future and an opportunity to practice good problem-solving skills.

In order to make the barricade stay in place on stage, the decision was made to use drop pins that would drop into holes drilled into the revolve. Stage brakes were decided against because the necessary placement for them required them to be mostly visible and drop pins were much more discreet. Midway through the construction process, two stand-alone barricade units were added to the structure, one on each end. These units were built to fit into each side of the barricade because they were decided upon after the draftings had been received for it. Clamping locks were used to hold these units to the larger barricade units. The decision to use clamping locks to attach them was made for two reasons. The first is that the drop pins on the larger barricade units made

the unit stable enough that it could hold the smaller unit in place effectively. The second is that clamping locks require less actor interaction than drop pins do. While there was a problem with a clamping lock on one of the smaller barricades during a performance, this was judged to be caused by a lack of communication between actors, stage management and this technical director.

The next largest scenic element to be addressed is the bridge unit. The rigging points were attached as discussed previously, with four pick points attached to compression beams that spanned the bottom of the structure underneath the frames. To avoid the complication and instability of a flying unit that rests on two other boxes or supports, the decision was made to make the entire bridge one solitary element. In conference with Paul, the decision was reached because he was certain he could make the bridge appear open underneath using a paint treatment and dimensional trim on the bridge. It also made the bridge much simpler to build and rig. The pick lines were hidden by lamp post structures and railing balusters and the results of its construction provided a stable scenic element for an actor to climb up and jump off of.

The gate unit is the next largest scenic element that needed to be considered. The gate walls were built out of 2x4 frames because they would be strong enough to support a swinging metal gate. The gate itself was built out of 14 gauge, ¾" square tube steel. This steel was chosen for several reasons. The first is that the weight from all of the steel in the gate would be light enough to be easily supported by the 2x4 walls. The next is that square tube steel was much easier to weld together than round tube steel because all of the pieces could lay flat against each other. The final reason this steel was chosen was

because the steel was flexible enough to be bent by hand into the required arch at the top of each gate without creasing. Both gates were welded together in the appropriate fashion and hung on the unit in two days. It should be noted that there were problems with the gate latch during the first few technical rehearsals. The first few attempts, a drop pin hinge and a barrel lock, were hard for actors to interact with so a simple garden gate catch was at last fashioned and installed. It worked effectively to latch the gate and was easy for actors to interact with.

The final large piece of scenery to be considered was the factory door unit. This unit featured custom-built arched doors and dimensional brick on the outside of the walls. The doors were built with the hollow door construction method to reduce material use and make them much lighter for hanging and opening. A simple turning latch was installed to make it easy for actors to interact with and effectively keep the door shut as the unit rolled on and off stage. The initial casters chosen for the unit were too small to roll over the tiles easily, so larger casters were chosen to replace them. This made the top-heavy unit unstable so weighted outriggers were placed on the back of the unit and out of audience view to make the unit more stable. The dimensional brick on the outside of the unit was accomplished by using the brick imprint hardboard that was previously discussed. This method was much less time-consuming than cutting out individual bricks and looked very realistic after a simple paint treatment.

The rest of the scenic elements were fairly straightforward, such as the barrel and crate platforms for the harbor scene. Stock barrels and crates were screwed onto rolling stock platforms according to the design intent of Paul. The only other significant scenic

elements were the dock piling for the harbor scene and some rolling beds with headboards and footboards. Copying the design of a dock piling already in stock, a piece of PVC pipe was covered in Great Stuff brand gap filler in rows that made it look like the solid wooden pole an actual dock piling would be. After shaving the excess gap filler off and painting the unit it effectively resembled a dock piling. The stock bed frames used in the show were retrofitted with headboards and footboards by Paul himself to allow him complete design control.

With all of the construction decisions for the scenic elements complete, the last thing that should be noted is the budget for the show. The construction budget went over by about 25 percent. While this amount would normally be unacceptable there are some justifications required. This technical director expressed concern over the large scope of the design very early on in the production meeting process and brought these concerns up again when the production team met again at the beginning of the school year. Director Paul J. Hustoles informed him that he could spend what was necessary on the show because of its profitability for the department. Because George Grubb, the department technical director, sound designer and manager of the construction budget, could not attend the meeting where these concerns arose, this technical director approached him as early as possible to inform him of this. Grubb then allotted him an extra $500 from the general shop budget to purchase materials for the show. A purchase of roughly $150 for stock ½" plywood caster guides that should have come from the general shop budget was added to the *Les Misérables* construction budget in order to facilitate the turning in of receipts in a timely fashion. Furthermore, roughly $200 worth of hardboard that was on

the *Les Misérables* construction budget and was intended to be returned was kept at Grubb's request for use on another season production. These factors put this technical director's construction expenditures fairly close to the $3,500 technically allotted to him for the show. With an efficient use of materials and a significant amount of planning of each scenic element, there is little else this technical director could have done to reduce expenses. It is hard to effectively plan out the expenses for every aspect of such a large-scale production when the scenic design is received on the timeline that it was.

Overall, working on this production was an educational, challenging, and enjoyable experience for this technical director. As has clearly been evidenced, although the scenic design seemed initially fairly simple, the reality was that the combination of all of the individual parts made the design incredibly complex. The planning and organization of such a show provided this technical director with invaluable insight into the technical facet of working with larger scale theatrical productions. While there were setbacks, challenges and revisions to the design throughout the construction of the show, these provided the technical director with continuing lessons on the flexibility required by a technical director in the production process. Valuable lessons about automation, rigging and different constructions processes were also learned and can be applied to different projects in the future. This technical director is glad to have been able to work on this project, excited about the lessons he learned and very proud of the final product.

CHAPTER V

PROCESS DEVELOPMENT

Before enrolling in the graduate program at Minnesota State University, Mankato, this Masters of Fine Arts candidate received a Bachelor's of Science Degree in Engineering from Dordt College in Sioux Center, Iowa. There this candidate participated in several aspects of theatre in an extracurricular capacity, specifically lighting design and scenic carpentry. He served as sound room supervisor and scene shop supervisor in the theatre department through the work assistance program and completed lighting designs for the productions of *Wit*, *Book of Days* and *Machinal*. He also served as lighting designer for the Sioux Center High School production of *Arsenic and Old Lace.* Upon graduating and not wishing to pursue a career with his engineering degree, he decided to pursue further education with a Master's of Fine Arts Degree in Technical Direction from Minnesota State Mankato.

One aspect of the theatre program at Minnesota State Mankato that attracted this candidate so much was the number of productions put on by the Department of Theatre and Dance every year. Upon entering the program he had never served in a technical director capacity on a theatrical production and was excited to get experience on a large number of shows over the course of the three year program. Coming from a theatre department that only produced 3-4 shows per year, this candidate had to quickly learn how to adapt to the fast-paced environment of the scene shop and department as a whole.

This experience has benefited him by teaching him how to work calmly under pressure, as well as emphasizing the importance of collaboration between the different design aspects of a realized production.

This candidate has completed four technical direction projects including *Les Misérables*. He was also technical director for *A Chorus Line* and *I Hate Hamlet*, both directed by Paul Finocchiaro, and *The Shape of Things*, directed by Sarah Pillatski-Warzeha. In addition to these productions, the candidate also acted as a member of the Opera Chorus in the musical *The Phantom of the Opera*, directed by Paul J. Hustoles, and did the scenic design for *I Love You Because*, directed by Adam Sahli. *Les Misérables* was his second technical direction of a mainstage play on the Ted Paul Theatre stage after *A Chorus Line*. *I Hate Hamlet*, his first mainstage show, and *The Shape of Things* both took place in the Andreas Theatre. The sets for each show this candidate has been technical director for have been progressively more complicated. This has given this candidate an incredibly valuable educational experience to be able to start with smaller sets while he was less experienced and be able to apply the lessons he learned to the more complicated sets.

Being technical director for his first show on a studio production, *The Shape of Things*, gave this candidate a great introduction to working with other students within the department. Everyone on the crew for this show was a student, so there were varying levels of experience between the younger and older production team members. This resulted in an interesting lesson on the best way to collaborate differently with colleagues based on skill and experience. Building the set itself for the show resulted in some great

educational experiences for this candidate. The complicated set pieces gave him a very interesting introduction to Minnesota State Mankato's Department of Theatre and Dance.

This candidate's second technical direction project was for the production of *I Hate Hamlet* in the Andreas Theatre. The show took place in the proscenium configuration which gave the scenic designer David McCarl incentive to make the set quite large. Dealing with the construction of such a large set was a challenge for this relatively inexperienced technical director, but with significant pre-planning and scenic drafting, the project ended up being a very valuable and educational experience for him. Working with faculty designers McCarl, the scenic and costume designer, and Steven Smith, the lighting designer, gave him positive experience in working with professional level designers which will benefit him upon graduation.

A Chorus Line was this candidate's first project on the Ted Paul Theatre stage. It was also his first experience working with several elements of flying scenery, which provided him valuable experience in the area of theatrical rigging. Working on a large-scale musical gave him an introduction to several new aspects of theatrical production, including dealing with a pit orchestra and a heavy emphasis on lighting. This candidate had already worked for director Paul Finocchario, so this project gave him another opportunity to work within the framework of Finocchario's unique directing style. Working with a larger budget also gave this candidate license to experiment and test different methods of set construction on certain scenic elements, which also proved a valuable experience. Working on such a large musical was invaluable to this candidate's growth as a theatre practitioner.

This candidate's first scenic design was on the production of *I Love You Because*, directed by graduate alumnus Adam Sahli. Having taken the scenic design class prior to this project, working as the scenic designer on this project gave him valuable experience to implement what he had learned in class into a realized production. Further beneficial knowledge was gained throughout this project because this candidate was also given a practical introduction to scenic painting and working with props. This project qualified as his out-of-area project and the ability to work in an area outside of his comfort zone provided useful experience for possible future jobs.

Les Misérables was this candidate's second technical direction on the Ted Paul Theatre stage and his first project working with Hustoles as the director. It was his first experience working with an automation system and extremely large rolling scenic units. It was also his first time working with a revolving stage, or revolve. Working with the automation system provided extremely valuable experience for him because of automation's rising role in today's technical theatre world. Working with large rolling scenic elements gave him practical knowledge about the process of selecting wheels, or casters. Working with the revolve gave him valuable insight into the construction methods of a new realm of moving scenery. Finally, the project's sheer size and minimal construction timeline gave this candidate extremely valuable experience practicing technical preparation for projects and time-management skills.

This candidate entered the graduate program at Minnesota State Mankato with fairly high confidence in his scenic carpentry skills and academic ability. However, the prospect of gaining academic knowledge in a field where he had previously only gained

practical knowledge was daunting at first. This candidate has successfully completed several of these classes at the graduate level and now feels much more confident in his ability to excel academically. The design classes this candidate has taken have perhaps been the most pertinent to his continued education in the technical direction field. The candidate has taken classes in scenic design, lighting design, costume design, and is currently enrolled in the sound design and scenic painting classes. These classes taught him not only how to function independently in each of these design capacities, but they perhaps more usefully gave insight into each designer's unique perspective as a member of a production team. This insight helps foster a better sense of collaboration between all parties involved on a production.

The drafting class was likely the most technically-relevant class this candidate has taken. It laid the foundations of theatrical drafting that are both prevalent and inherent in a technical director's responsibilities. Learning the correct nomenclature, format and conventions for such draftings has been both foundational and invaluable in this candidate's pursuit of a future career in this educational emphasis.

The scenic design class was perhaps the most relevant design-oriented class to this candidate's specific educational emphasis. Because the technical director often works directly under the scenic designer in realized productions, understanding the scenic design perspective is perhaps one of the most critical skills this candidate can possess. With his professional aspirations to end up in the educational realm, this understanding could prove itself crucial in a job where the technical director of a theatre department may also act as the scenic designer.

The lighting design class, while not directly related to the construction of scenic elements, still gave insight into the collaboration necessary between a lighting designer and a technical director. This collaboration is important in the production process because the lighting crew and scene shop crew are working in the same space. Organization and scheduling must take place to ensure that both sides have the appropriate amount of time to complete the necessary tasks for the production.

The costume design class has perhaps been one of the two most foreign to this candidate, and therefore one of the most difficult thus far. An understanding of costume design can be valuable while constructing a set. For instance, it would be beneficial to construct scenic elements in such a way that they don't cause damage to a costume on stage. However, perhaps the most valuable skill he learned in this class is how to better understand a costume designer's perspective within a production team and how best to collaborate and communicate with one in a production setting.

The other design class that is a completely foreign subject to this candidate is the sound design class. While the mixture of designing the sound for a play and the construction of its set may not seem correlated, this candidate learned sometimes the sound designer and technical director need to work in tandem to accomplish a mutually beneficial goal. One example of this would be constructing a set piece in order to accommodate a set of speakers for a specific cue. The construction of the scenic element in a standard way may make the sound designer's job harder while a specific construction style may make it easier. This further showed the interconnectedness of each member of the design team and the commonality of resources used to achieve a goal.

While design-related but still more of a technical course, the scenic painting class has given this candidate not only a wealth of knowledge about the intricacies of scenic painting but also an understanding of the skill a scenic designer must have to create their desired intent for a show. Having completed a scenic design prior to this project with virtually no scenic painting knowledge, this candidate has a new appreciation for the realm of scenic painting after participating in this course.

The technical direction class has given this candidate a more refined educational experience regarding his craft. While all of his past experience in this area has been practical, hands-on experience, this class has given him an academic look into the nuances of what being a good technical director means. The class has also taught him sensible and functional skills regarding the process of technical direction in a scene shop setting.

Classes in this department that are more academically oriented have provided valuable other skills to this candidate and have taught him to view theatre as an art in a more holistic sense. Theatre Research taught him more refined research methods and improved his academic writing style for the purpose of graduate projects and other academic papers. Portfolio Seminar aided his formation of a professional level resume and portfolio, which will provide practical benefits when searching for jobs upon graduation. This candidate learned about the business side of working with a professional theatre in Theatre Management, which gave him a more balanced perspective on the interconnectedness of artistry and practicality within the theatre world. Theatre Dramaturgy has given him more research experience and a better appreciation for

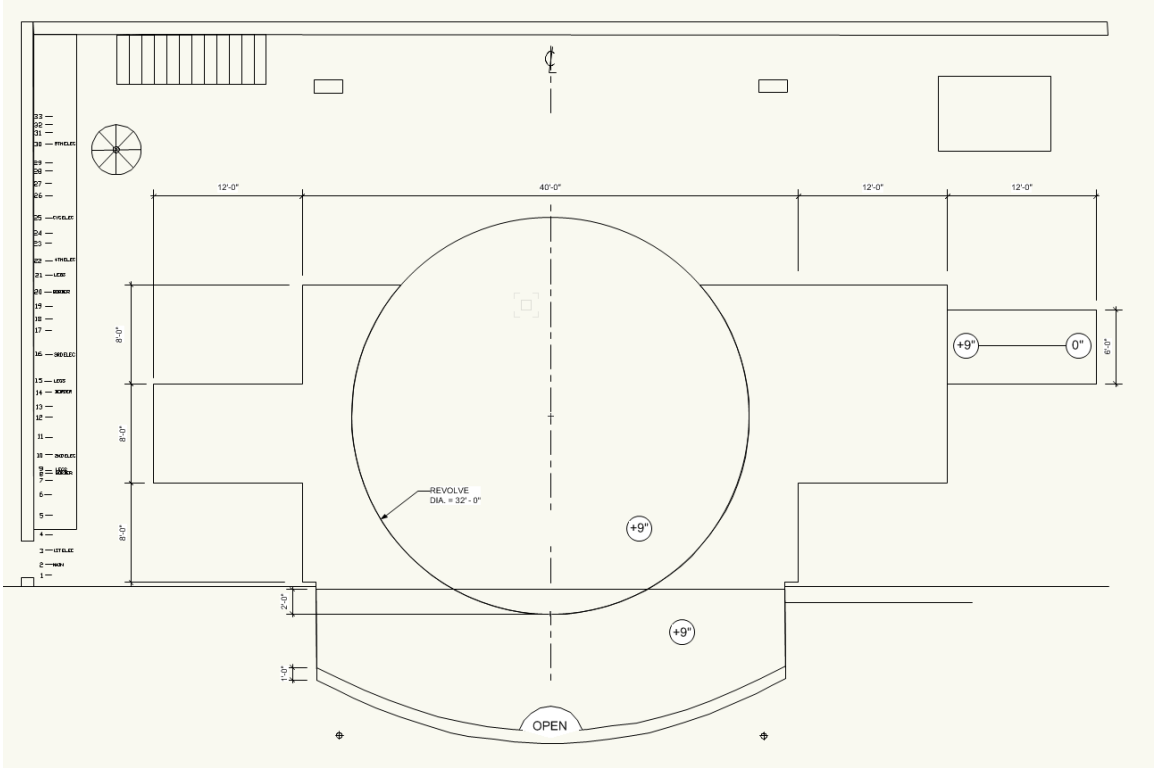
the historical and social context of a play before it even goes into production. Theory and Criticism has taught him to develop his own ideas for connections a playwright might have intended for a play or a designer might draw between a specific play and real life. Finally, Theatre History II taught him the impact of more modern theatre history's specific idiosyncrasies in today's theatrical world.

One final aspect of this candidate's graduate education that has been extremely beneficial is his assistantship working in the scene shop. The ability to work as a supervisor daily in a scene shop setting has provided invaluable experience in working as a professional artist from an educational perspective. This assistantship has also provided him with necessary practical experience for excelling in the technical theatre world, such as experience welding and dealing with rigging and flying scenery. The fast-paced production schedule of the scene shop has also given this candidate a more realistic perspective on what working in a professional scene shop may be like.

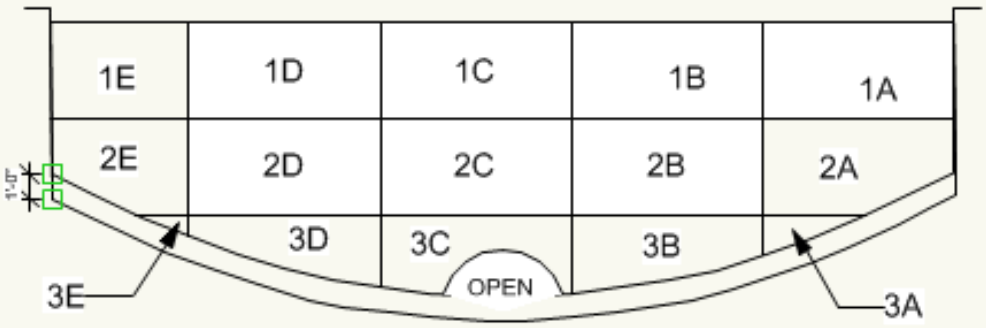
The graduate program at Minnesota State University, Mankato has taught this candidate innumerable skills relating to his craft. The program, projects, classes and assistantship have given him a combination of practical experience and academic knowledge regarding the field of technical direction in theatre. This candidate is quickly gaining the experience necessary to be a well-educated and successful practitioner in the professional technical theatre world.

APPENDIX A

TECHNICAL DRAFTINGS



FIRST DRAFTED GROUND PLAN

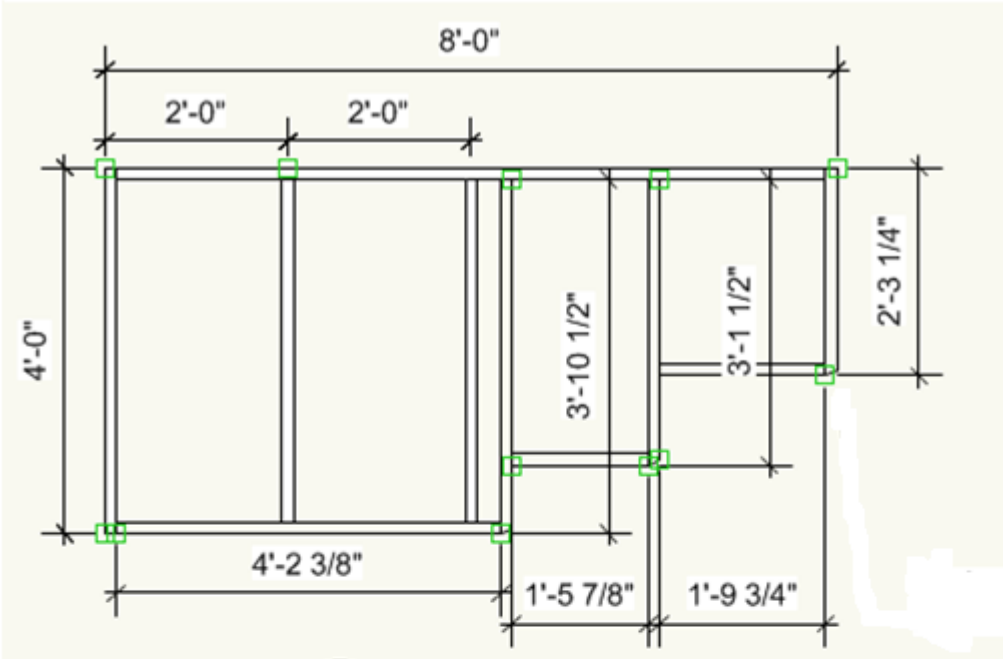


PIT EXTENSION PLATFORM ASSIGNMENTS

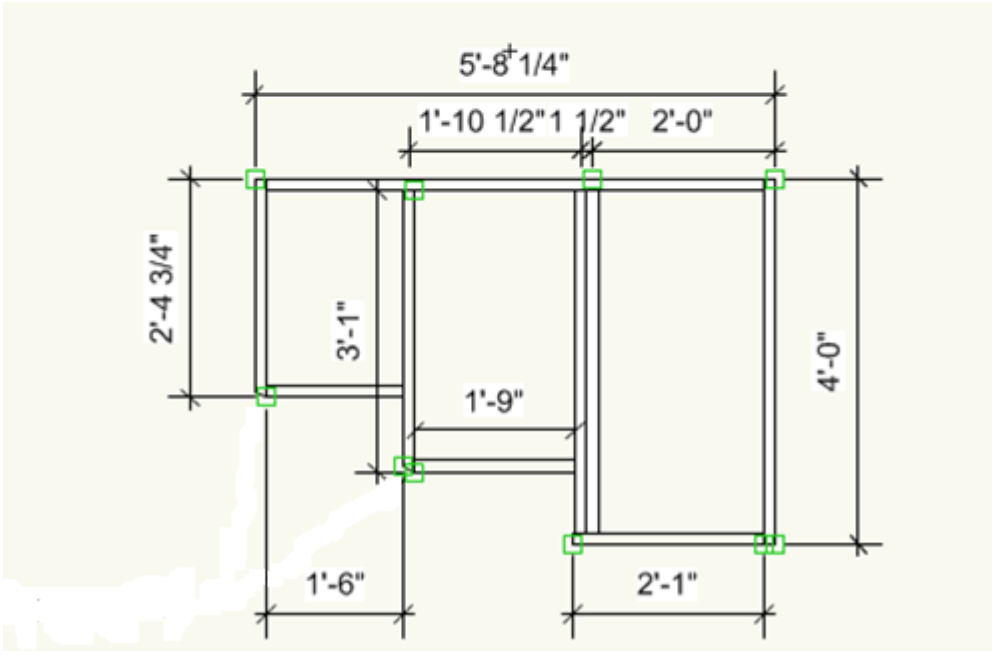
Platforms 1A, 1B, 1C, 1D, 2B, 2C, and 2D are stock 4'x8' platforms

Platform 1E is a stock 4'x5'-8 1/4" platform

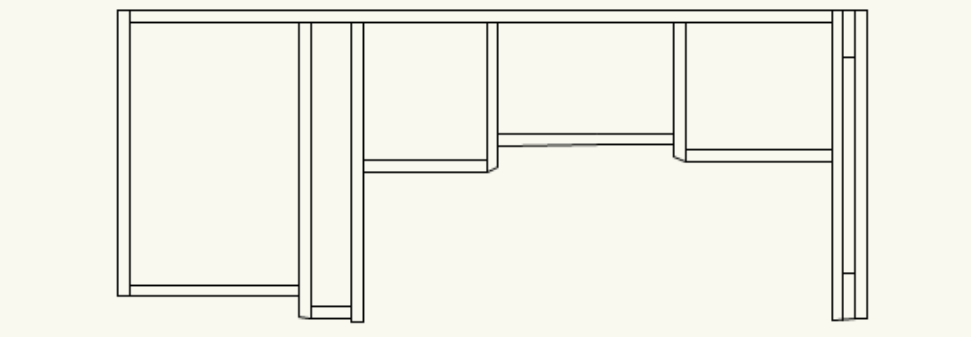
STOCK PLATFORM ASSIGNMENTS



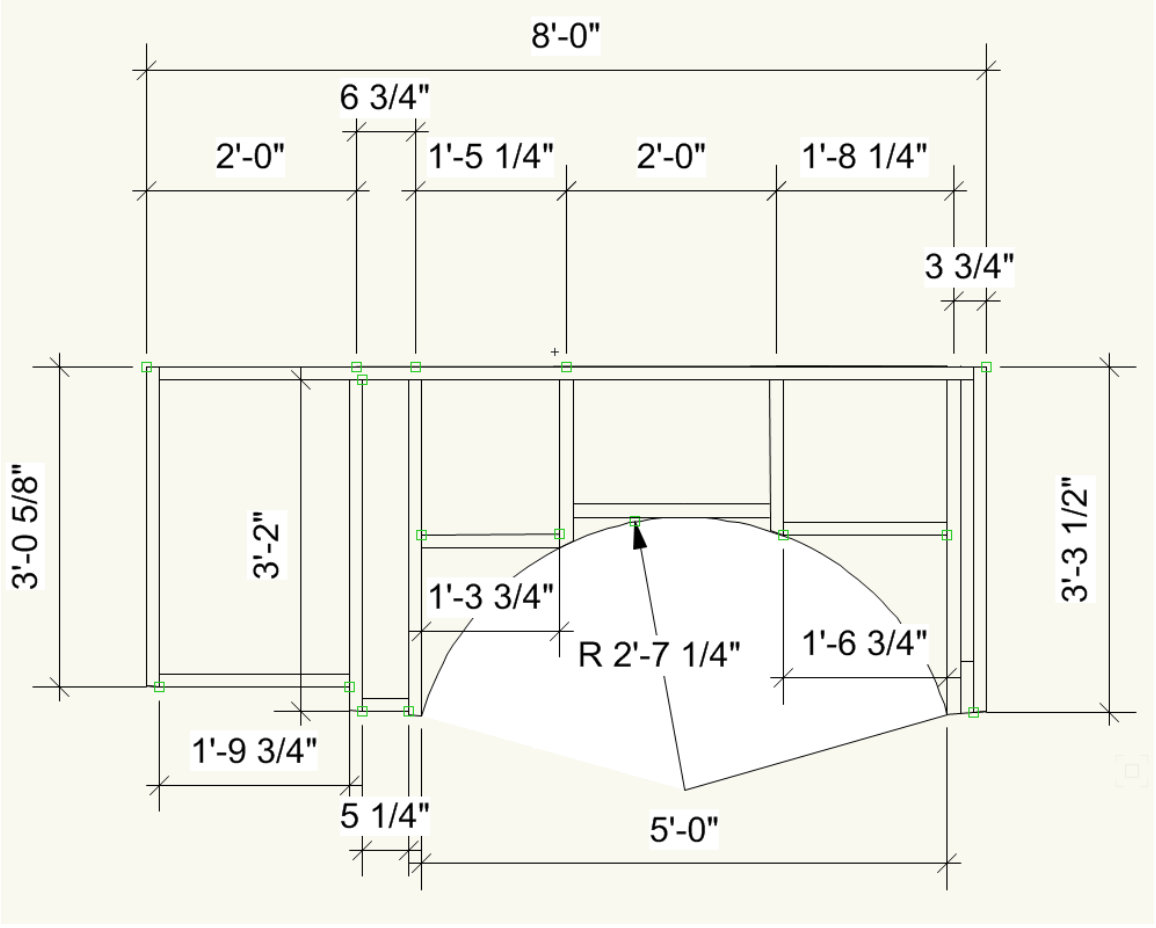
PIT EXTENSION PLATFORM 2A



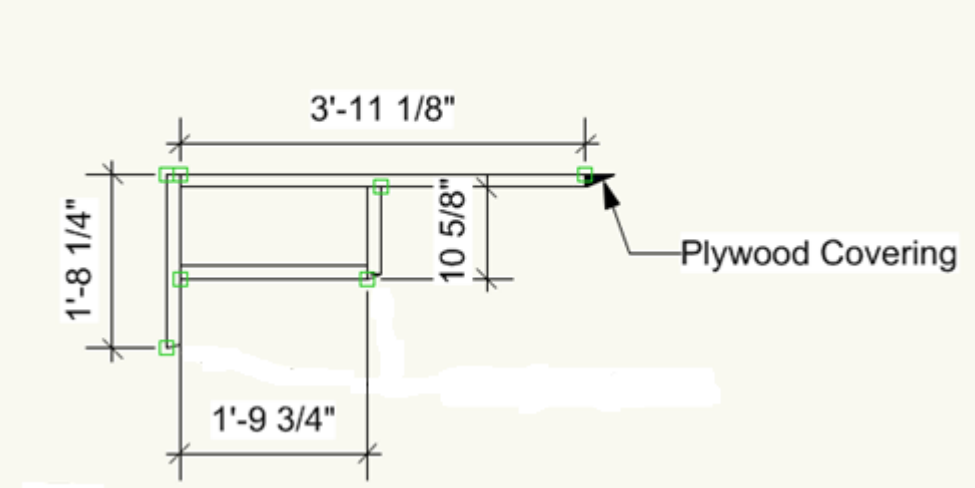
PIT EXTENSION PLATFORM 2E



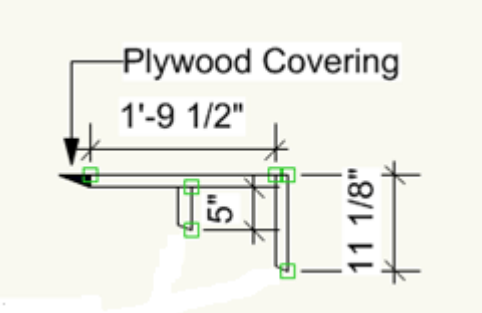
PIT EXTENSION PLATFORM 3C, NO DIMENSIONS



PIT EXTENSION PLATFORM 3C, DIMENSIONS



PIT EXTENSION PLATFORM 3A FRAMING



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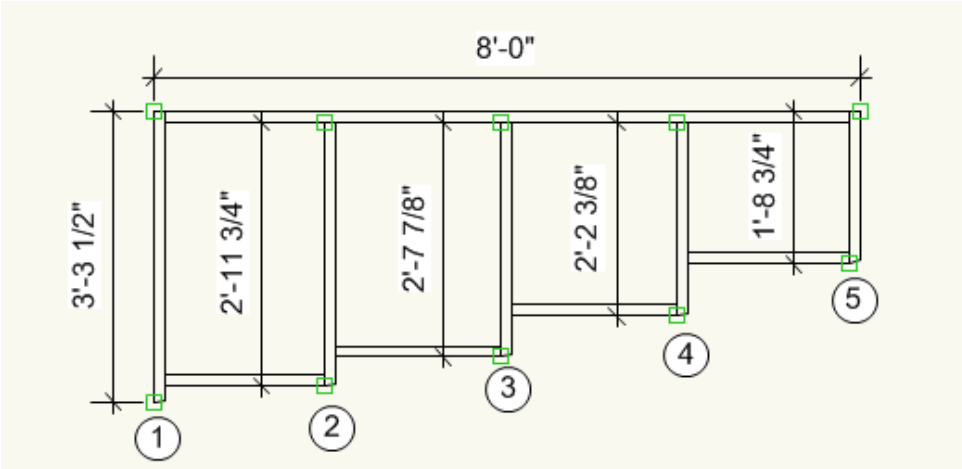
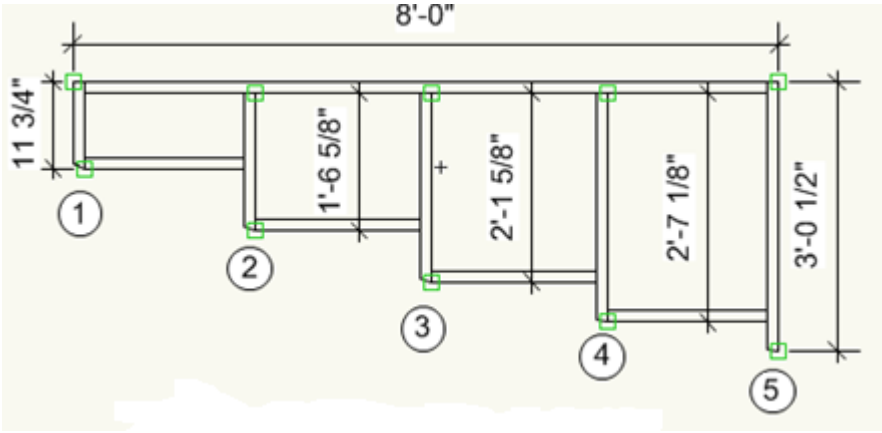


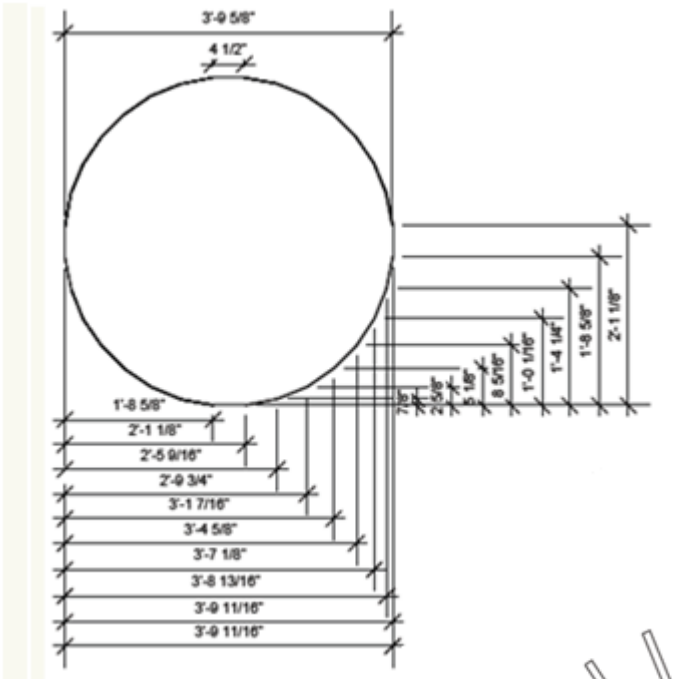
PIT EXTENSION PLATFORM 3B

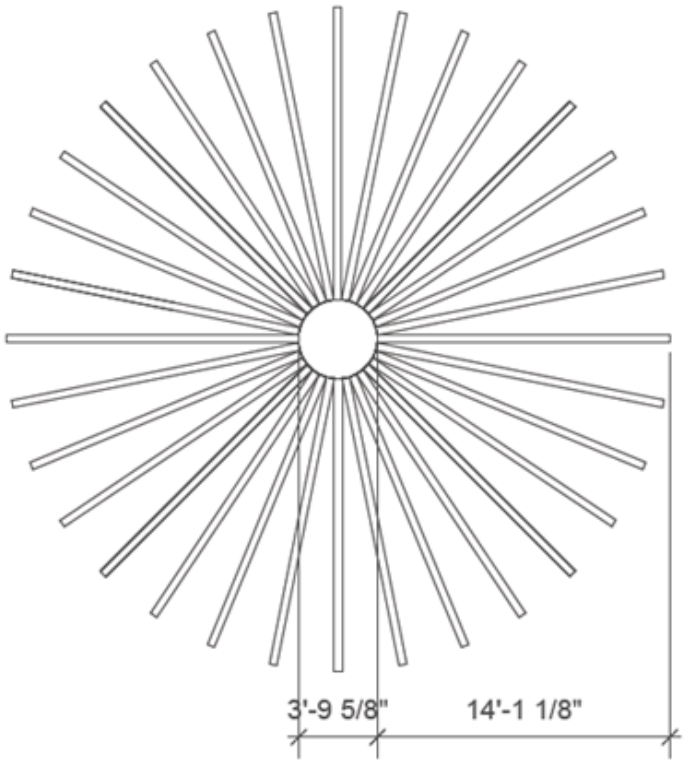


PIT EXTENSION PLATFORM 3D

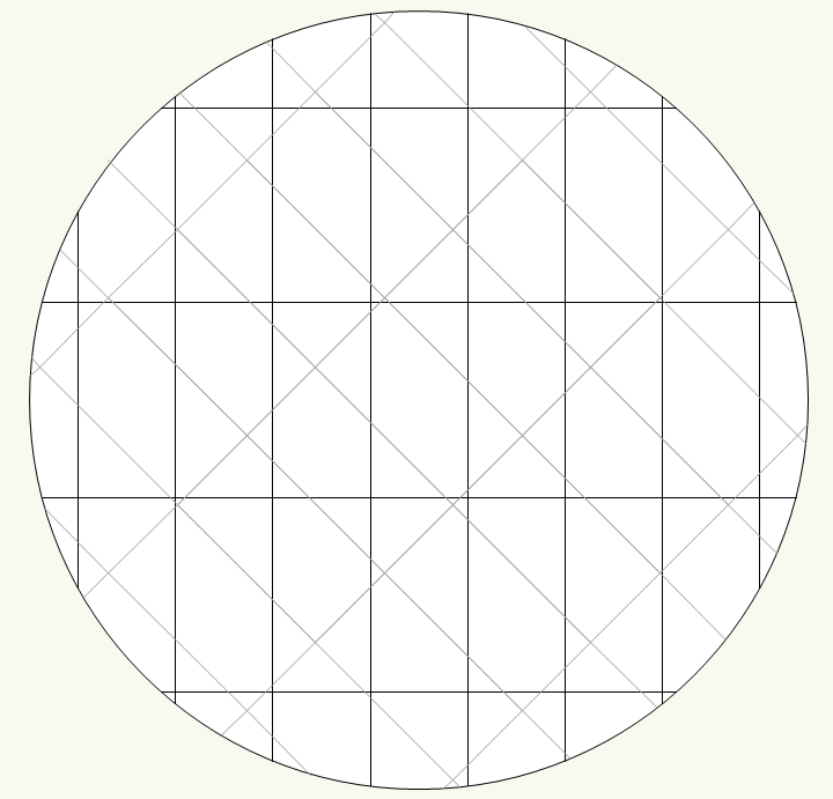
3B CHAMFER ASSIGNMENTS	3D CHAMFER ASSIGNMENTS
1) 4 degrees	1) 21 degrees
2) 7.5 degrees	2) 19 degrees
3) 11 degrees	3) 15 degrees
4) 15 degrees	4) 11 degrees
5) 19 degrees	5) 7.5 degrees

32-SIDED POLYGON

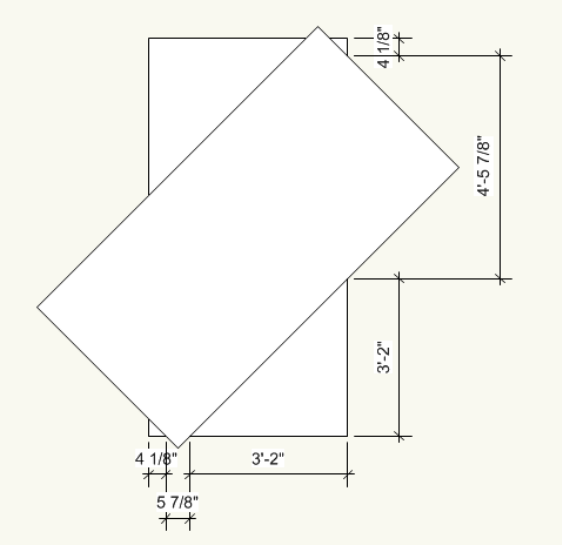




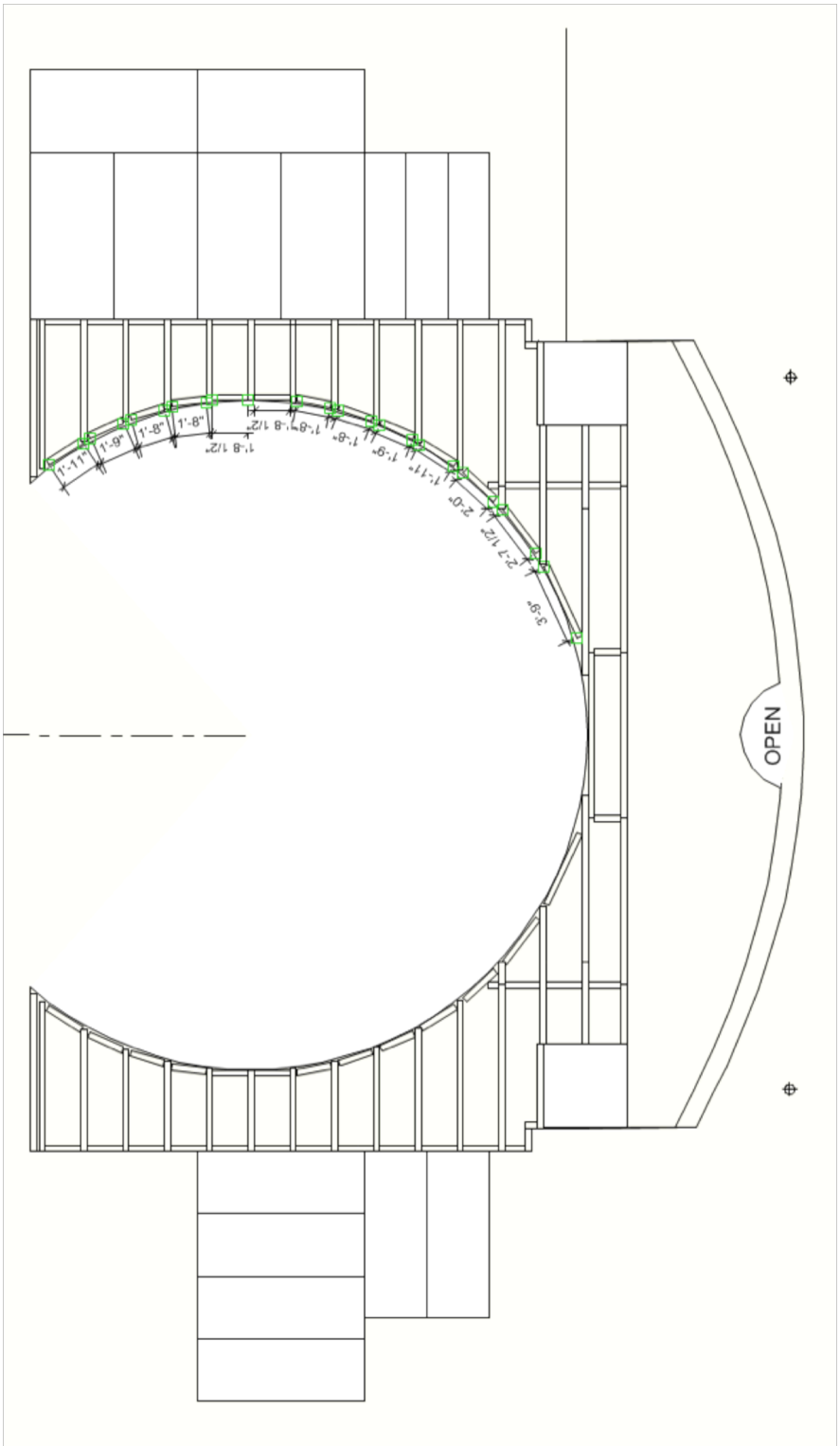
REVOLVE CASTER PLACEMENT GUIDES



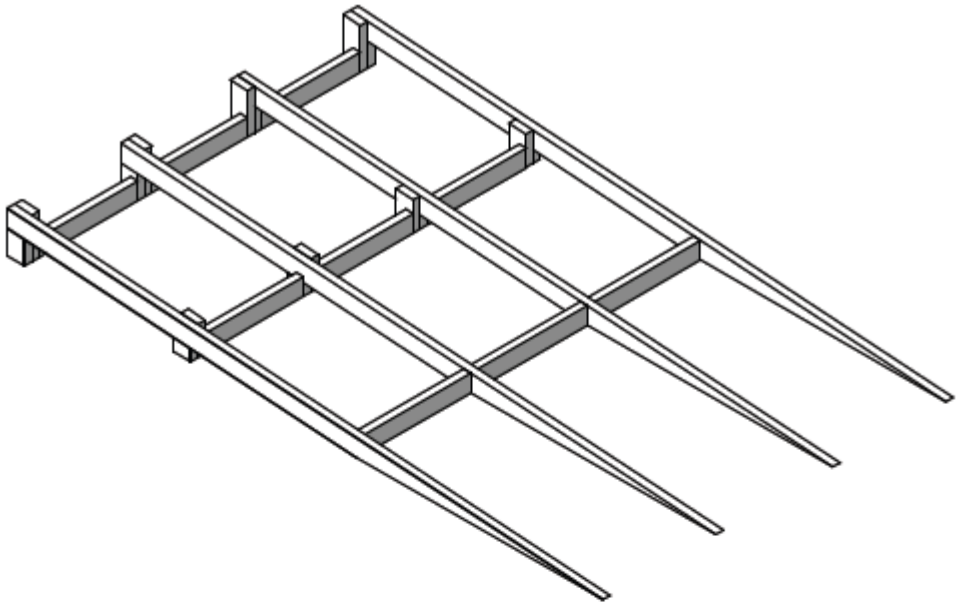
REVOLVE PLYWOOD LAYOUT



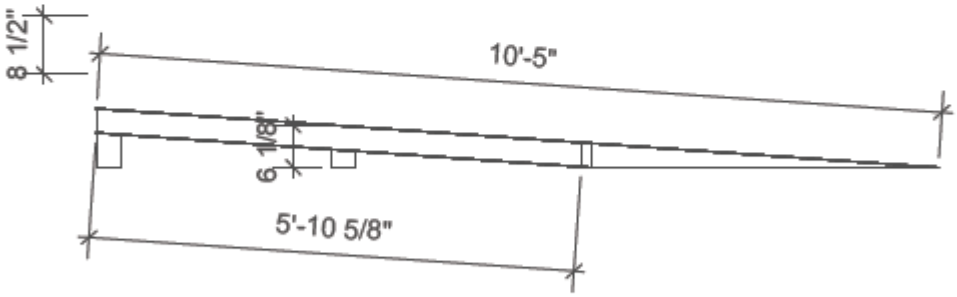
CENTER REVOLVE OFFSET LENGTHS



STUD WALL CONFIGURATIONS

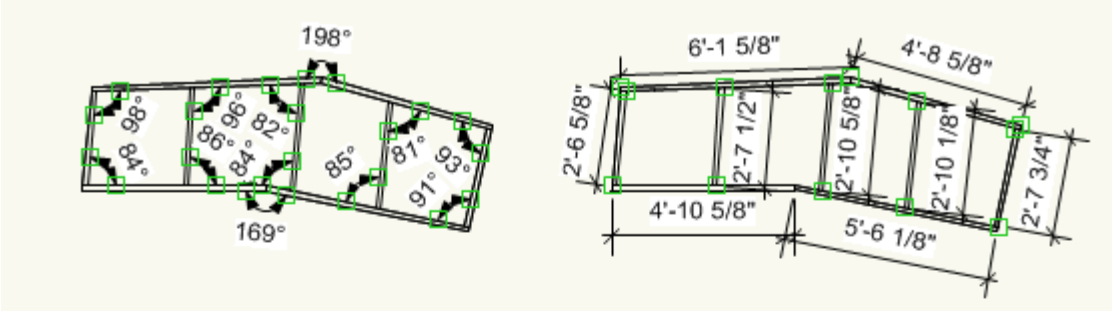


3D MODEL OF RAMP

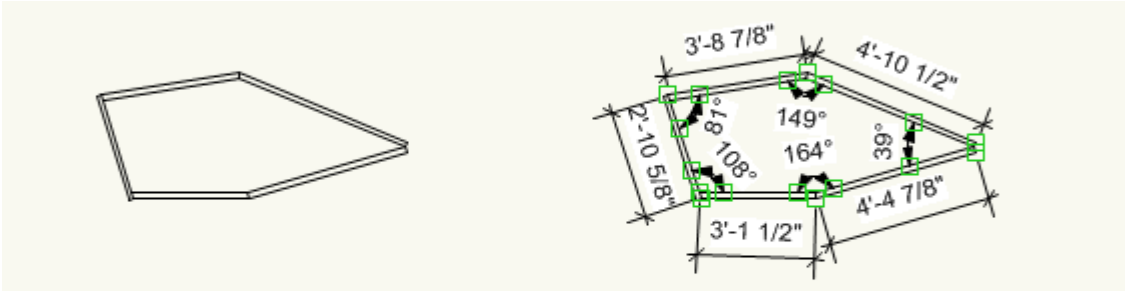


FRONT VIEW DIMENSIONS

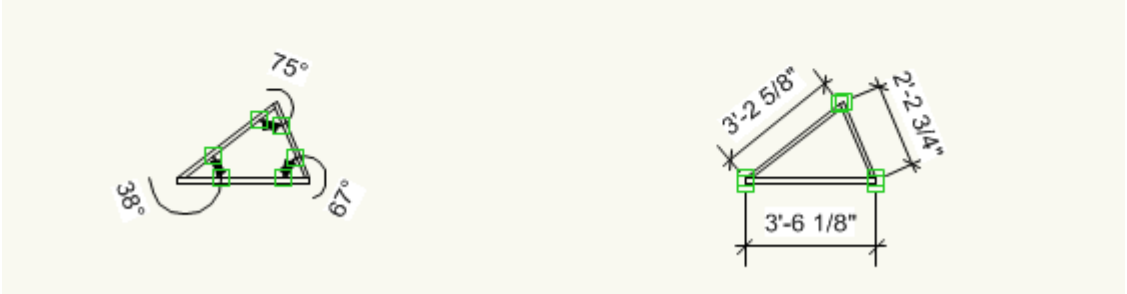
RAMP LEG DIMENSIONS



BOTTOM FRAME, ANGLES ONLY BOTTOM FRAME, DIMENSIONS

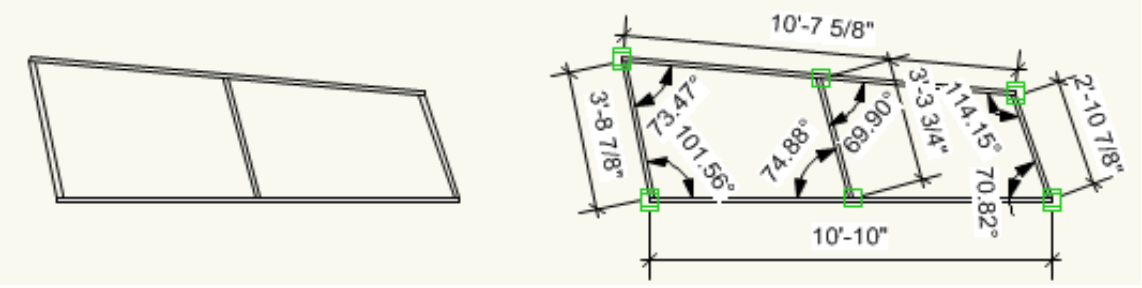


SL TOP FRAME, NO DIMENSIONS SL TOP FRAME, DIMENSIONS



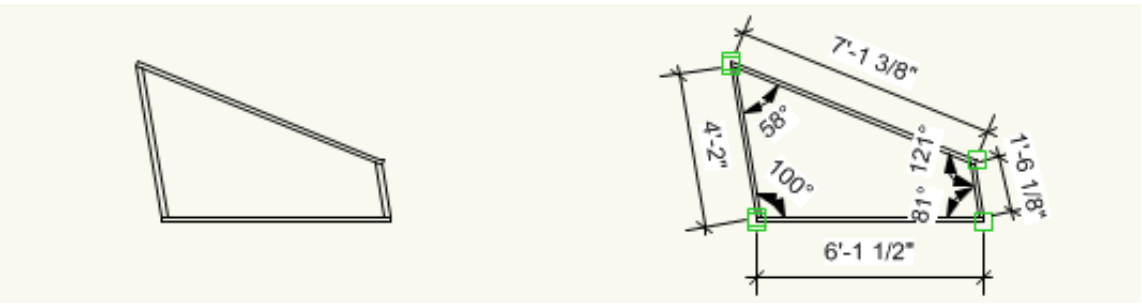
SR TOP FRAME, ANGLES ONLY SR TOP FRAME, DIMENSIONS

ALL DRAFTINGS ON THIS PAGE ARE FOR
THE STAGE LEFT BARRICADE FRAME



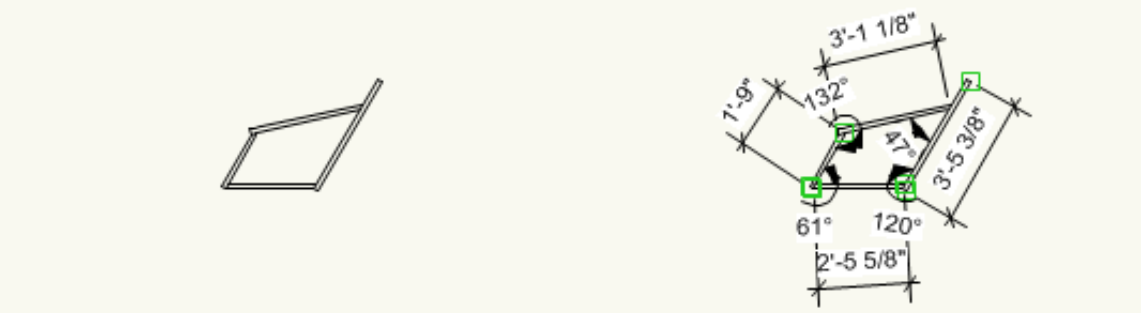
BOTTOM FRAMES, NO DIMENSIONS

BOTTOM FRAME, DIMENSIONS



SR TOP FRAME, NO DIMENSIONS

SR TOP FRAME, DIMENSIONS

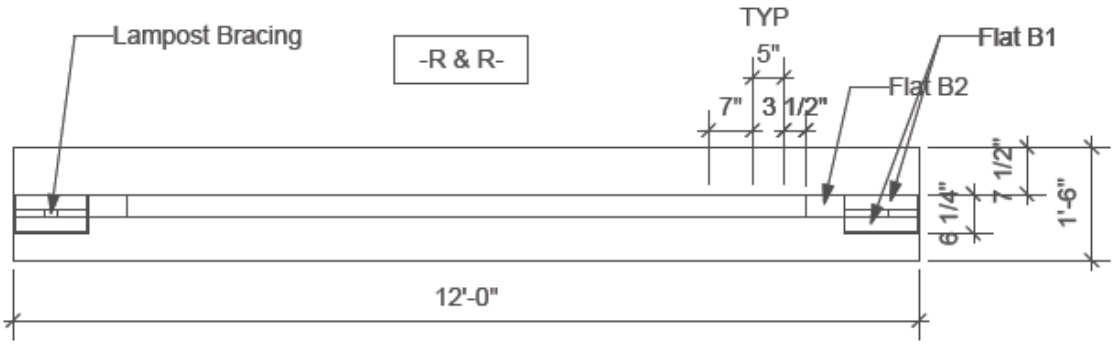


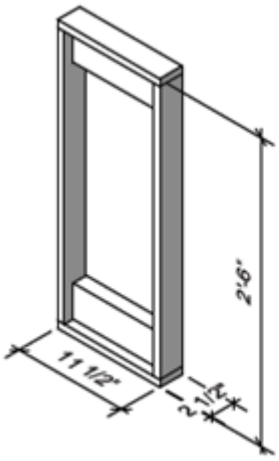
SL TOP FRAME, NO DIMENSIONS

SL TOP FRAME, DIMENSIONS

ALL DRAFTINGS ON THIS PAGE ARE FOR
THE STAGE RIGHT BARRICADE FRAME

TOP/PLAN VIEW OF BRIDGE





-Build four (4) of these-

-Rip down 1x4 to make the frame-

-Do not face until they are installed on the bridge-

-Install 10" 2x4 bracings with screws as shown-

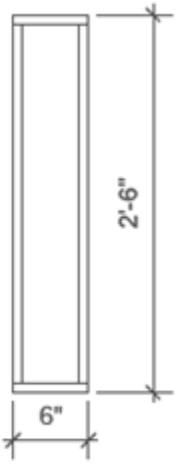
FLAT B1

-Build two (2) of these-

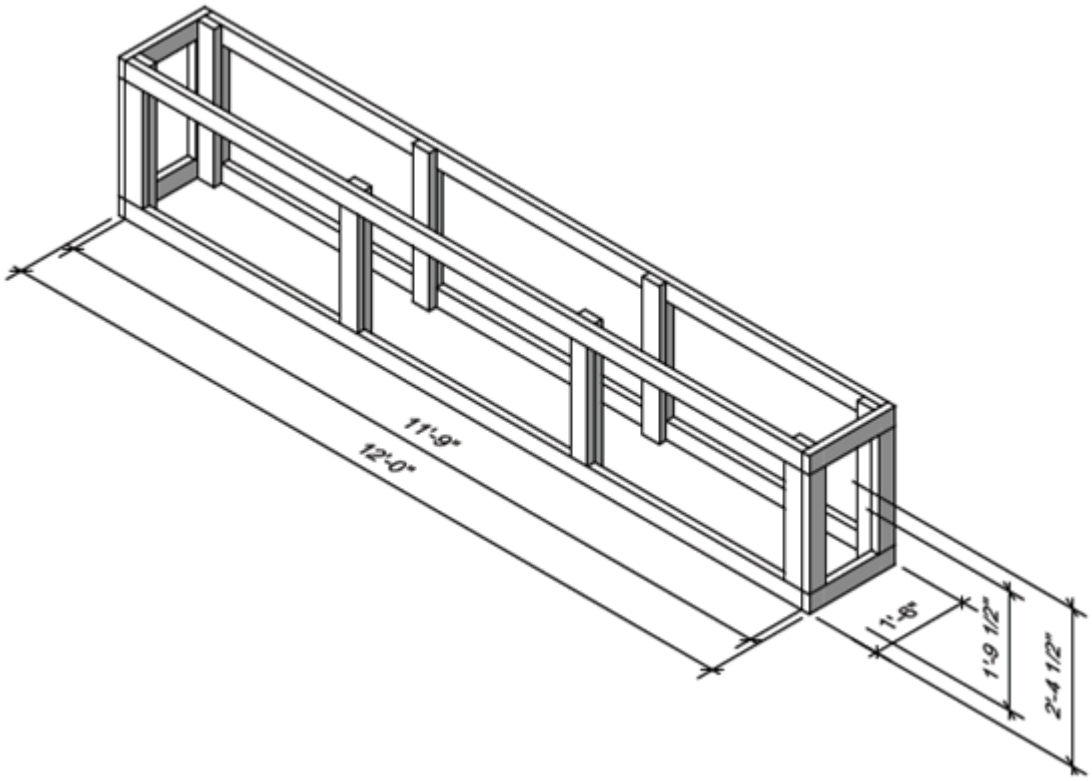
-Standard Hollywood-style flat-

-Face with luaun, glue and staples-

-Face before installation on bridge-



FLAT B2

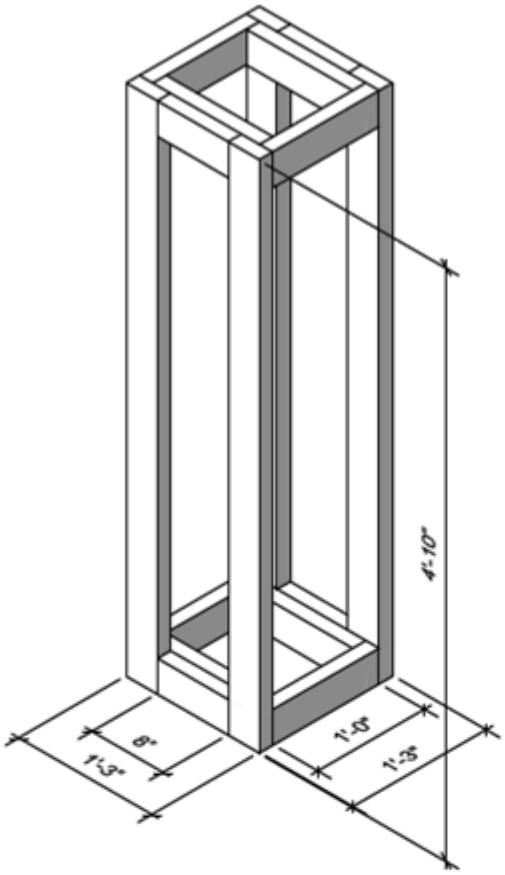


-Deck the top with 3/4" OSB plywood-

-Face front and sides with luaun, leave back open-

-Facing should cover the side of the decking-

BRIDGE STRUCTURE



-Construct two (2) of these

-After toe-nail screwing them in place, face all four sides with luaun

-Brace the 8" blocks with 12" blocks behind them, as shown

-Top gets covered with a 1'-6" square of 2" unexpanded polystyrene foam

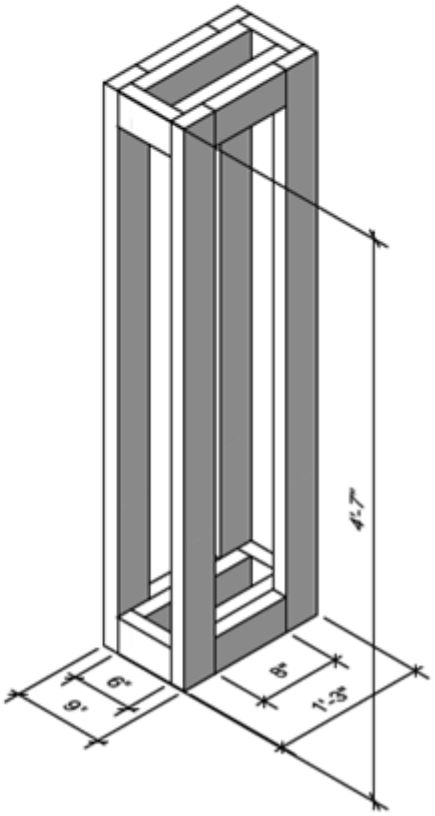
MAIN GATE POSTS

-Construct two (2) of these

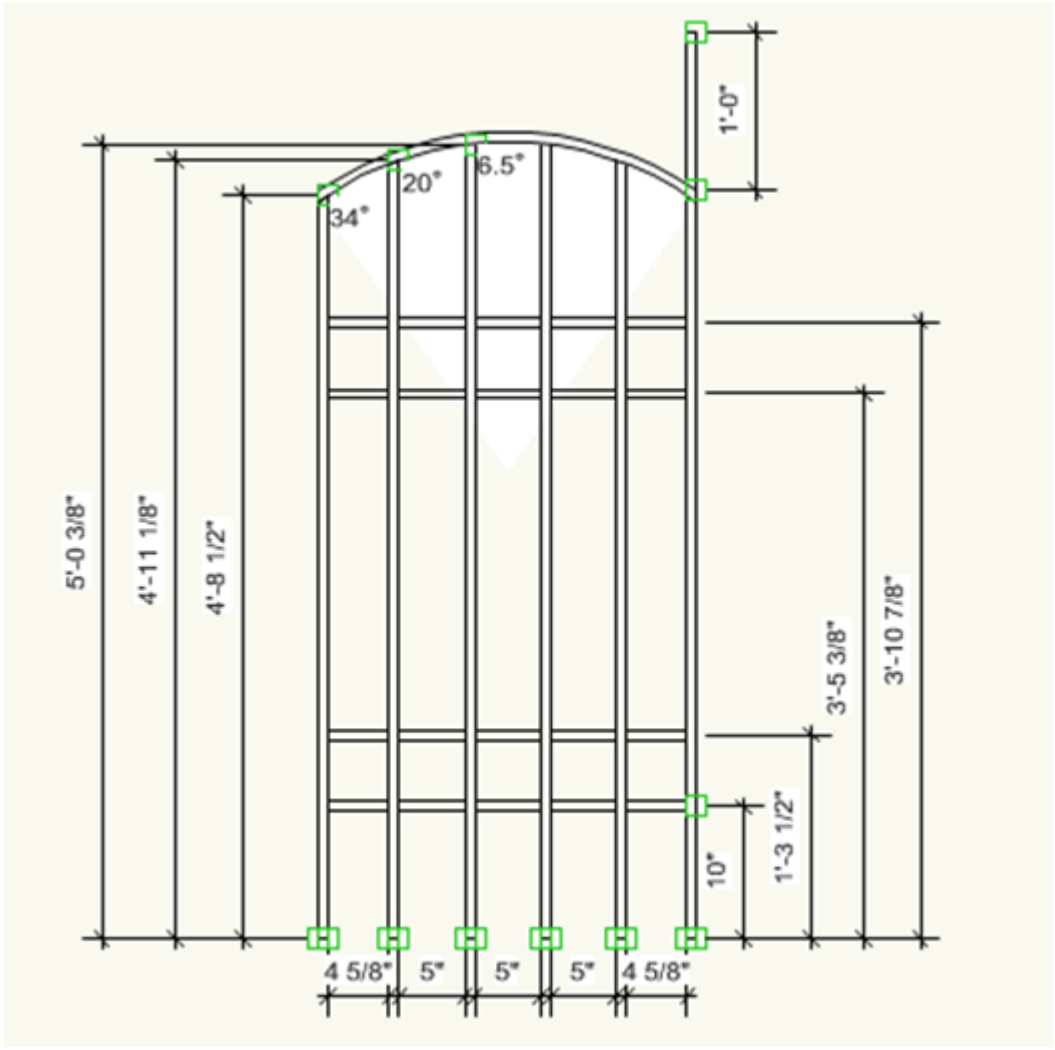
-After toe-nail screwing them in place, face all four sides with luaun

-Brace the 8" blocks with 12" blocks behind them, as shown

-Top gets covered with a 1'-6" x 10 1/2" rectangle of 2" unexpanded polystyrene foam



OUTER GATE POSTS



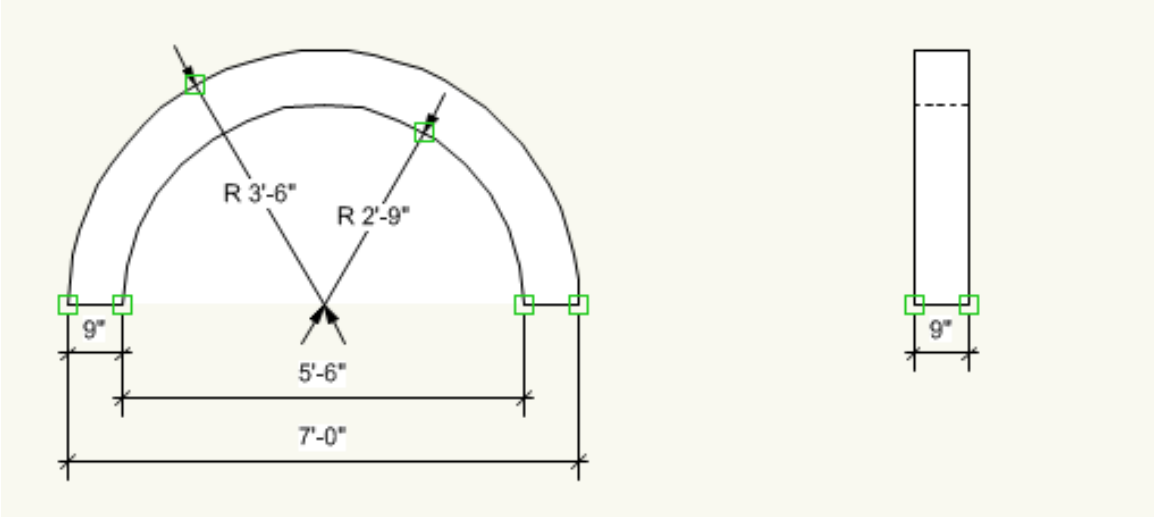
-Build two (2) of these, R & R-

-Weld together using 3/4" box tube steel-

-Bend the box tube around the curve, weld in place-

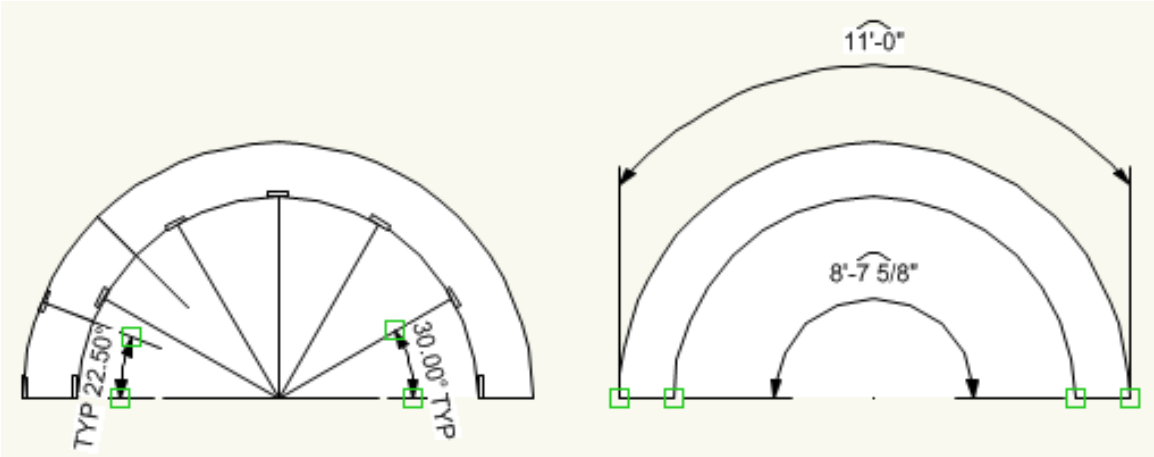
-Cut angles into the bars to make welding easier-

RUE PLUMET GATE



GATE ARCH, FRONT VIEW

GATE ARCH, SIDE VIEW



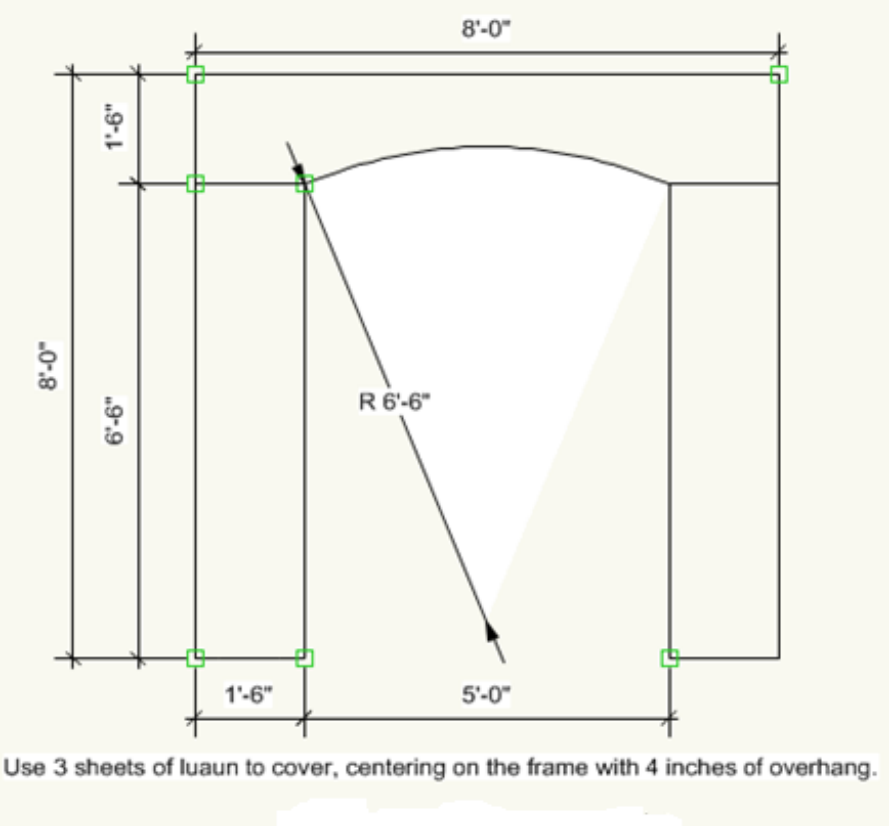
-To accomodate for the luaun, cut the 1x4 spacers to 8 5/8"-

-Cut 16 spacers total-

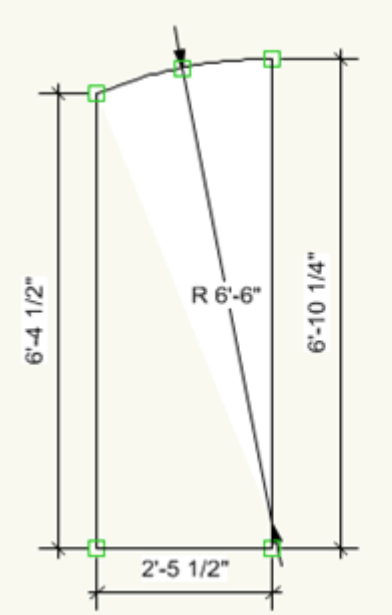
-Use 8 5/8" wide strips of 1/4" masonite-

GATE ARCH STUD SPACING

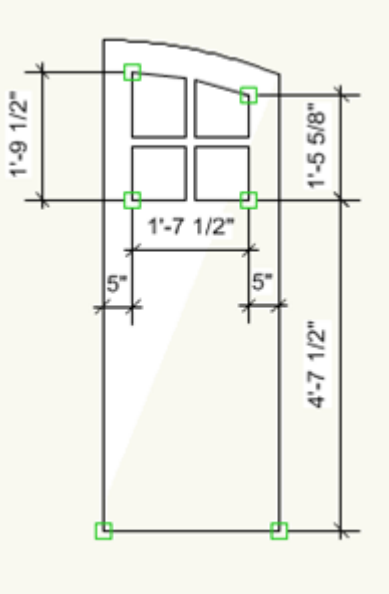
GATE ARCH, ARC LENGTHS



FACTORY DOOR FRONT FLAT



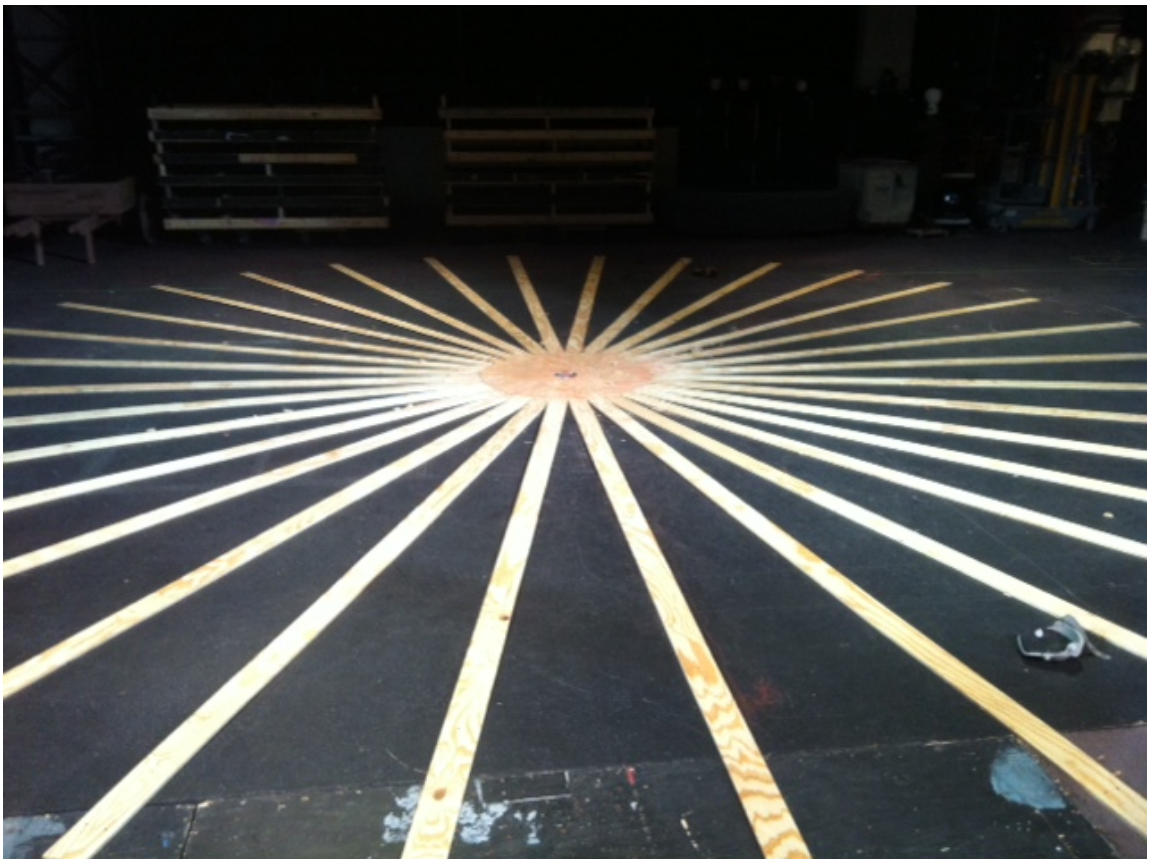
STAGE RIGHT DOOR



STAGE LEFT DOOR

APPENDIX B

PRODUCTION PHOTOGRAPHS



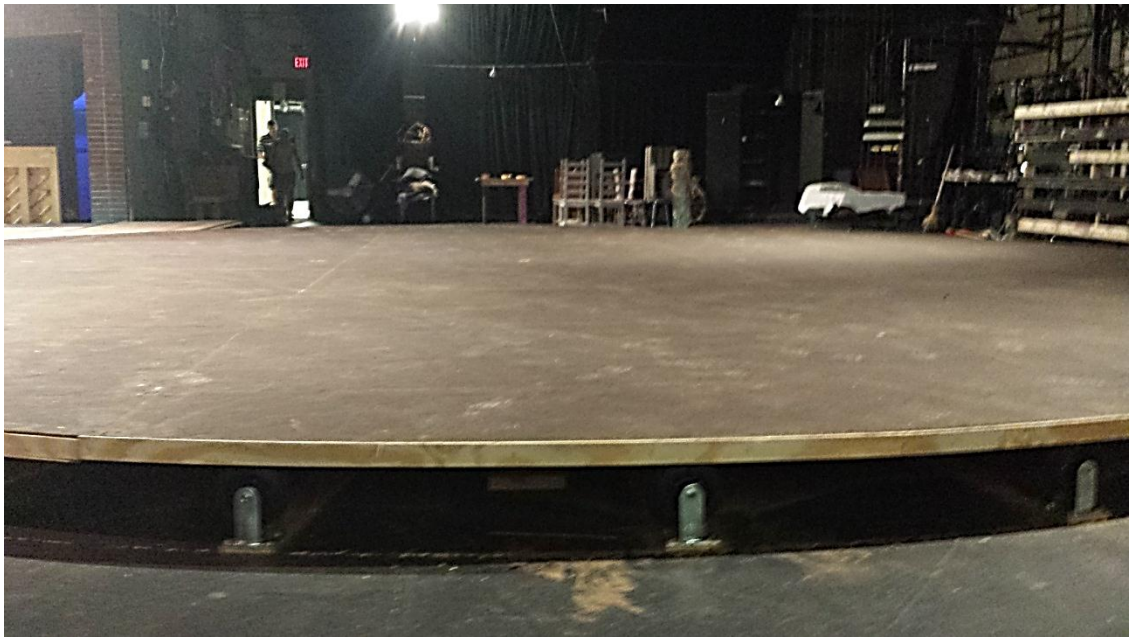
CASTER GUIDES INSTALLED

INSTALLING THE CASTERS

CASTER INSTALLATION WITH CENTER PIVOT PIECES

INSTALLATION OF PLYWOOD LAYERS

PLYWOOD REVOLVE COMPLETE



SOUNDBOARD AND OUTER TRIM ON REVOLVE INSTALLED

ELEVATED FLOORING PARTIALLY INSTALLED

STUD WALL ELEVATED FLOORING COMPLETELY INSTALLED

INSTALLATION OF SOUNBOARD ON ELEVATED FLOORING

INSTALLATION OF AUTOMATION EQUIPMENT

TILE INSTALLATION

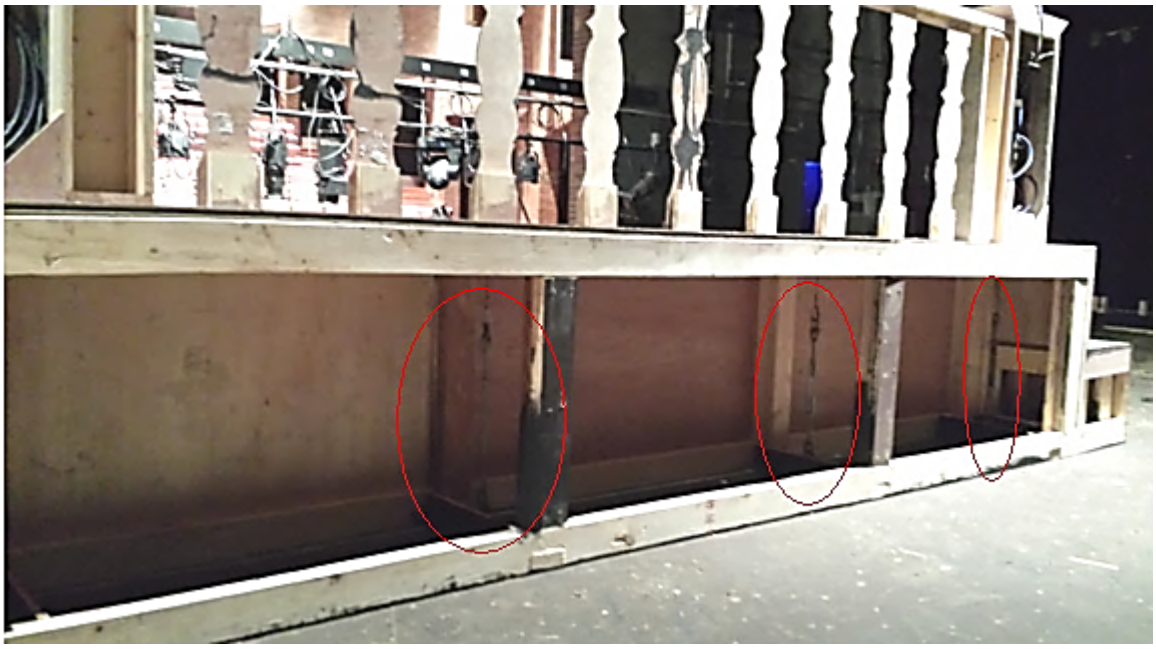
STAGE RIGHT BARRICADE UNIT

STAGE RIGHT BARRICADE WITH STAND-ALONE UNIT

STAGE LEFT BARRICADE UNIT

STAGE LEFT BARRICADE WITH STAND-ALONE UNIT

BRIDGE STRUCTURE COMPLETE



BRIDGE RIGGING PICK POINTS

GATE UNIT COMPLETE

CUSTOM MADE METAL GATE

FACTORY DOOR UNIT COMPLETE

CUSTOM MADE HOLLOW WOODEN DOORS

THE FINAL BARRICADE BATTLE

FINALE OF *LES MISÉRABLES*

WORKS CITED

Behr, Edward. The Complete Book of Les Misérables. New York City: Arcade Publishing, 1989. 39-160. Print.

Brombert, Victor. Victor Hugo and the Visionary Novel. Cambridge, MA: Harvard University Press, 1984. 95-115. Print.

Burton, Richard D. E. Blood in the City: Violence and Revelation in Paris, 1789-1945. Ithaca, NY: Cornell University Press, 2001. 125. Print.

"*Les Misérables*." Internet Broadway Database. Ed. Jennifer Stewart. The Broadway League, n.d. Web. 11 Oct. 2013. <http://ibdb.com/production.php?id=4443>.

Miller, Scott. From *Assassins* to *West Side Story*: The Director's Guide to Musical Theatre. Portsmouth, NJ: Heinemann, 2006. 165-66. Print.

Pinkney, David H. The French Revolution of 1830. Princeton, NJ: Princeton University Press, 1972. 20-367. Print.

Robb, Graham. Victor Hugo. New York City: W. W. Norton & Company, 1997. 9-383. Print.

Sternfield, Jessica. The Megamusical. Bloomington, IN: Indiana University Press, 2006. 1-2. Print.

Weingart, Ed, and Scott Bartley. "Turntables on a Budget." United States Institute for Theatre Technology. Milwaukee, WI. 21 Mar. 2013. Address.